Iowa Department of Natural Resources
Final Title V Operating Permit

Name of Permitted Facility: Monsanto Company - Muscatine
Facility Location: 2500 Wiggens Road
Muscatine, IA 52761
Air Quality Operating Permit Number: 04-TV-002
Expiration Date: 01/12/09

EIQ Number: 92-3670
Facility File Number: 70-01-008

Responsible Official
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This permit is issued in accordance with 567 Iowa Administrative Code Chapter 22, and is issued subject to the terms and conditions contained in this permit.

For the Director of the Department of Natural Resources

Douglas A. Campbell, Supervisor of Air Operating Permits Section Date

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Abbreviations

acfm ..... actual cubic feet per minute
CAA ..... Clean Air Act
CAC ..... chloroacetyl chloride
CFR ..... Code of Federal Regulation
EIQ ..... emissions inventory questionnaire
ETFAA ..... ethyl 4,4,4-trifluoroacetoacetate
^{o}F ..... degrees Fahrenheit
GI ..... glyphosate intermediate
GT ..... glyphosate technical solution
gr/dscf ..... grains per dry standard cubic foot
gr/scf ..... grains per standard cubic foot
g/s ..... grams per second
IAC ..... Iowa Administrative Code
IDNR ..... Iowa Department of Natural Resources
kPa ..... kilopascals
lb/hr ..... pounds per hour
lb/MMBtu ..... pounds per million British thermal units
MACT ..... maximum achievable control technology
mmHg ..... millimeters mercury
MON 13900 ..... furilazole (a seed safener)
MVAC ..... motor vehicle air conditioner
NA ..... not applicable
NESHAP ..... national emissions standards for hazardous air pollutants
NIPA ..... n-isopropylaniline
NSPS ..... new source performance standard
PAI ..... pesticide active ingredient
POD ..... point of discharge
POHC ..... principal organic hazardous constituents
ppmv ..... parts per million by volume
PSD ..... prevention of significant deterioration
psi ..... pounds per square inch
P_v ..... vapor pressure
QA/QC ..... quality assurance/quality control
scfm ..... standard cubic feet per minute
SIC ..... standard industrial classification
TPY ..... tons per year
USEPA ..... United States Environmental Protection Agency
VOL ..... volatile organic liquid

Pollutant Abbreviations

Cl_2 ..... chlorine
CO ..... carbon monoxide
HAP ..... hazardous air pollutant
HCl ..... hydrogen chloride
NO_x ..... nitrogen oxides
PM ..... particulate matter
PM_{10} ..... particulate matter ten microns or less in diameter
SO_2 ..... sulfur dioxide
TOC ..... total organic compounds
VOC ..... volatile organic compound

I. Facility Description and Equipment List

Facility Name: Monsanto Company - Muscatine
Permit Number: 04-TV-002

Facility Description: Pesticide Manufacturing (SIC 2879)

CAC Unit Equipment List

Emission Point Number	Associated Emission Unit Number(s)	Associated Emission Unit Description
EP 37	EU-11-106	CAC Ketene Furnace
EP 38	EU-11-111-1	CAC Process Incinerator Burner
	EU-11-111-2	CAC Distillation Columns
	EU-11-S-1-2	Process Off-gas
EP 234	EU-11-119-1	CAC Process Flare Burner
	EU-11-119-2	Acid Cracking
EP 243	EU-11-S-1-1	CAC Process Vents
	EU-11-S-1-2	Process Off-gas
	EU-11-BL	CAC Truck Loading
	EU-11-275	Chlorinated Waste Feed Tank
EP 328	EU-11-138	Acetic Acid Storage Tank
EP 39	EU-11-FUG	CAC Unit Fugitive Emissions

CAC Unit Insignificant Equipment List

Insignificant Emission Unit Number	Insignificant Emission Unit Description
EU-11-142	Catalyst Storage Tank (P_v = 0.0122 psi)
EU-11-149	Solvent Storage Tank (P_v = 0.0048 psi)
EU-11-TK14	Dilute Acid Receiver

ETFAA Unit Equipment List

Emission Point Number	Associated Emission Unit Number(s)	Associated Emission Unit Description
EP 275	EU-17-558-1	ETFAA Flare Burner
	EU-17-558-2	ETFAA Process
	EU-17-588	ETFAA Storage Tank
	EU-17-500	Solvent Storage Tank
	EU-17-580	Recycled Solvent Storage Tank
	EU-17-586	Recycled Oxetane Storage Tank
	EU-17-621	Organic Waste Storage Tank
	EU-17-BL	Tank Truck Loading Rack
EP 276	EU-17-557-1	ETFAA Ketene Flare Burner
	EU-17-557-2	Ketene Compression Purge
EP 277	EU-17-588	ETFAA Storage Tank
	EU-17-500	Solvent Storage Tank
	EU-17-580	Recycled Solvent Storage Tank
	EU-17-586	Recycled Oxetane Storage Tank
	EU-17-621	Organic Waste Storage Tank
	EU-17-BL	Tank Truck Loading Rack
EP 279	EU-17-FUG	ETFAA Unit Fugitive Emissions

ETFAA Unit Insignificant Equipment List

Insignificant Emission Unit Number	Insignificant Emission Unit Description
EU-17-534	Ketene Secondary Compressor #1 Exhaust Fan

GT Unit Equipment List

Emission Point Number	Associated Emission Unit Number(s)	Associated Emission Unit Description
EP 306	EU-4-0211	Tech Reactor #1
	EU-4-0231	Tech Reactor #2
	EU-4-1124	Tech Reactor #3
	EU-4-0220	Tech Reactor Vent Tank
	EU-4-0290	Flash Tank
EP 307	EU-4-0170	GI Slurry Tank
	EU-4-0219	Hot Water Tank
	EU-4-0239	Reactor Feed Tank
	EU-4-0246	Recycle Catalyst Tank
	EU-4-0255	Process Sump Tank
	EU-4-0336	Waste Catalyst Tank
	EU-4-0415	Evaporator Feed Tank
	EU-4-0485	Distillate Receiver #1
	EU-4-0500	Centrifuge Feed Tank
	EU-4-0515	Centrifuge #1
	EU-4-0516	Centrifuge #2
	EU-4-0519	Centrifuge #3
	EU-4-0525	Centrate Tank
	EU-4-0530	Spent Mother Liquor Tank
	EU-4-0550	#3 Centrifuge Tank
	EU-4-0640	Wet Cake Hopper
	EU-4-0679	Crystallizer
	EU-4-0685	Distillate Receiver #2
	EU-4-0700	Packout Hopper
	EU-4-0701	Packout Centrifuge #1
	EU-4-0702	Packout Centrifuge #2
	EU-4-0703	Packout Tank
	EU-4-0715	Centrifuge #4
	EU-4-0725	Centrate Feed Tank
	EU-4-0734	Packout System
	EU-4-0750	#4 Centrifuge Tank
	EU-4-0920	Amination Reactor
	EU-4-0930	Amination Tank
	EU-4-0773	Reslurry Tank
EP 312	EU-4-0950	#1 Salt Adjust Tank
EP 313	EU-4-0960	#2 Salt Adjust Tank
EP 318	EU-4-0139	GI Railcar Unloading
	EU-4-0345	Spent Catalyst Packout Tank

GT Unit Equipment List (continued)

Emission Point Number	Associated Emission Unit Number(s)	Associated Emission Unit Description
EP 319	EU-4-0160	#1 Bulk GI Storage Tank
EP 338	EU-4-0165	#2 Bulk GI Storage Tank
EP 337	EU-4-FUG	GT Unit Fugitive Emissions
EP 391	EU-4-1120	Closed Loop Coolant Tank

Multipurpose Unit Equipment List

Emission Point Number	Associated Emission Unit Number(s)	Associated Emission Unit Description
EP 4	EU-9-0302	Step I Aqueous Waste Storage Tank
EP 6	EU-9TK-3B	Aniline Storage Tank
EP 8	EU-9-FUG	Multipurpose Unit Fugitive Emissions
EP 10	EU-9-0300	Step I Aqueous Waste Storage Tank
EP 11	EU-9TK-12	Propachlor Storage Tank
EP 18	EU-9-0601	Autoclave #1
	EU-9-0603	Autoclave #2
	EU-9-0615	Autoclave Receiver #1
	EU-9-0617	Autoclave Receiver #2
EP 44	EU-9TK-335	NIPA Storage Tank
EP 138	EU-9TK-28	Step IV Aqueous Waste Storage Tank
EP 151	EU-9-2925-01-0903	MON 13900 Manufacturing & NIPA/Propachlor Manufacturing
	EU-9TK-25	NIPA/Propachlor Manufacturing - Step II Reactor
	EU-9-0201	NIPA/Propachlor Manufacturing - CAC Stripper
EP 155	EU-9TK-36	Premix Day Tank
EP 206	EU-9TK-44	Step IV Aqueous Waste Storage Tank
EP 206A	EU-9TK-45	Step IV Aqueous Waste Storage Tank
EP 286	EU-13-0949	Technical Storage Tank "D"
EP 315	EU-9-0539	Nitromethane Furfural Storage Tank
EP 316	EU-9-0503	Organic Waste Storage Tank
EP 327	EU-9-0477	Step II Residue Drumming
EP 330	EU-9-TL	Wastewater Truck Loading
EP 331	EU-9-RL	Wastewater Rail Car Loading
EP 387	EU-9-0564	Evaporator System Vacuum Pump Separator
EP 392	EU-9-ULS	Propachlor Rework Unloading Station
EP 393	EU-9-0629	NIPA Column Vent

Multipurpose Unit Insignificant Equipment List

Insignificant Emission Unit Number	Insignificant Emission Unit Description
EU-9-0963	Small NIPA Tank
EU-9-0610	Catalyst Charge Tank
EU-9-0414	Short Stop Tank
EU-9-0613	Spent Catalyst Tank

II. Plant-Wide Conditions

Facility Name: Monsanto Company - Muscatine
Permit Number: 04-TV-002

Permit conditions are established in accord with 567 Iowa Administrative Code rule 22.108

Permit Duration

The term of this permit is: Five Years
Commencing on: 01/13/04
Ending on: 01/12/09

Amendments, modifications and reopenings of the permit shall be obtained in accordance with 567 Iowa Administrative Code rules 22.110 - 22.114. Permits may be suspended, terminated, or revoked as specified in 567 Iowa Administrative Code Rules 22.115.

Multiple Title V Permits

Monsanto Company has applied for three Title V permits for their Muscatine facility. The facility will be considered as a whole with regard to applicability of various air permitting programs. This permit covers four process areas at the facility: the CAC, ETFAA, GT, and Multipurpose Units.

- The CAC Unit produces the herbicide intermediate chloroacetyl chloride (CAC). CAC is used at the facility to produce alachlor, acetochlor, butachlor, and propachlor.

- The ETFAA Unit produces ethyl 4,4,4-trifluoroacetoacetate (ETFAA), an intermediate used in the production of the pyridine family of herbicides. The facility was sold to Rohm and Haas in 1994 and then to Dow Agrosciences in 2000. Monsanto operates the ETFAA facility for Dow.

- The Glyphosate Technical (GT) Unit produces two salts of glyphosate: amine salt and potassium salt. These salt solutions are considered herbicide active ingredients.

- The Multipurpose Unit produces two products on a campaign basis. Part of the year, the unit may produce propachlor, a herbicide active ingredient, and n-isopropylaniline (NIPA), an intermediate used in the propachlor process. Other times during the year, the unit may produce MON 13900 (furilazole), a seed safener that is blended with acetochlor for use by Monsanto's formulation facilities. The products cannot be made simultaneously. This unit may also be used to produce the herbicide metolachlor using a process similar to that used for propochlor production.

Other Title V Permits

IDNR intends to issue a second permit to cover the Flowable Formulations and Liquid Formulations Units at this facility.

- The Flowable Formulations are typically water-based liquid herbicide formulations consisting of herbicide technical ingredients and other herbicide additives. Both microencapsulated and non-microencapsulated formulations are produced.

- The Liquid Formulations area formulates, packages, and ships herbicides as emulsifiable concentrates, herbicide technical active ingredients, and formulated herbicide premixes. The Liquid Formulations Facility packages and ships products in jugs, drums, shuttles, and mini-bulk containers. There are also facilities for providing bulk shipment of products in rail cars or tank trucks.

IDNR intends to issue a third permit to cover the A-Unit and the Unit Services.

- The A-Unit produces acetochlor, alachlor, and butachlor from CAC.

- The Unit Services area includes utilities and waste treatment activities at the facility.

Emission Limits
Unless specified otherwise in the Emission Point-Specific Conditions, the following limitations and supporting regulations apply to all emission points at this plant:

Opacity (visible emissions): 40% opacity
Authority for Requirement: 567 IAC 23.3(2)"d"

Sulfur Dioxide (SO_2): 500 parts per million by volume
Authority for Requirement: 567 IAC 23.3(3)"e"

Particulate Matter (state enforceable only)[1]:
No person shall cause or allow the emission of particulate matter from any source in excess of the emission standards specified in this chapter, except as provided in 567 – Chapter 24. For sources constructed, modified or reconstructed after July 21, 1999, the emission of particulate matter from any process shall not exceed an emission standard of 0.1 grain per dry standard cubic foot of exhaust gas, except as provided in 567 – 21.2(455B), 23.1(455B), 23.4(455B) and 567 – Chapter 24.
For sources constructed, modified or reconstructed prior to July 21, 1999, the emission of particulate matter from any process shall not exceed the amount determined from Table I, or amount specified in a permit if based on an emission standard of 0.1 grain per standard cubic foot of exhaust gas or established from standards provided in 23.1(455B) and 23.4(455B).
Authority for Requirement: 567 IAC 23.3(2)"a" (as revised 7/21/1999)

[1] Pending approval into Iowa's State Implementation Plan (SIP), paragraph 567 IAC 23.3(2)"a" (as revised 7/21/1999) is considered *state enforceable only*.

Particulate Matter[2]:
The emission of particulate matter from any process shall not exceed the amount determined from Table I, except as provided in 567 — 21.2(455B), 23.1(455B), 23.4(455B) and 567 — Chapter 24. If the director determines that a process complying with the emission rates specified in Table I is causing or will cause air pollution in a specific area of the state, an emission standard of 0.1 grain per standard cubic foot of exhaust gas may be imposed.
Authority for Requirement: 567 IAC 23.3(2)"a" (prior to 7/21/1999)

Fugitive Dust: Attainment and Unclassified Areas - No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered repaired or demolished, with the exception of farming operations or dust generated by ordinary travel on unpaved public roads, without taking reasonable precautions to prevent particulate matter in quantities sufficient to create a nuisance, as defined in Iowa Code section 657.1, from becoming airborne. All persons, with the above exceptions, shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate. The highway authority shall be responsible for taking corrective action in those cases where said authority has received complaints of or has actual knowledge of dust conditions which require abatement pursuant to this subrule. Reasonable precautions may include, but not limited to, the following procedures.

1. Use, where practical, of water or chemicals for control of dusts in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land.
2. Application of suitable materials, such as but not limited to asphalt, oil, water or chemicals on unpaved roads, material stockpiles, race tracks and other surfaces which can give rise to airborne dusts.
3. Installation and use of containment or control equipment, to enclose or otherwise limit the emissions resulting from the handling and transfer of dusty materials, such as but not limited to grain, fertilizers or limestone.
4. Covering at all times when in motion, open-bodied vehicles transporting materials likely to give rise to airborne dusts.
5. Prompt removal of earth or other material from paved streets or to which earth or other material has been transported by trucking or earth-moving equipment, erosion by water or other means.

Authority for Requirement: 567 IAC 23.3(2)"c"

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[2] Paragraph 567 IAC 23.3(2)"a" (prior to 7/21/1999) is the general particulate matter emission standard currently in the Iowa SIP.

Compliance Plan
The owner/operator shall comply with the applicable requirements listed below. The compliance status is based on information provided by the applicant.

Unless otherwise noted in the 112(j) statement below or in Section III of this permit, Monsanto Company - Muscatine is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which become effective during the permit term, Monsanto Company - Muscatine shall comply with such requirements in a timely manner.
Authority for Requirement: 567 IAC 22.108(15)

Section 112(j) of the Clean Air Act (MACT Hammer)

On May 16, 2002, Monsanto Company - Muscatine submitted a Part 1 MACT application to IDNR, indicating that the facility may be subject to the MACT standard for Industrial/Commercial/Institutional Boilers & Process Heaters, 40 CFR 63 Subpart DDDDD, when it's promulgated. Monsanto Company - Muscatine must submit a Part 2 MACT application to IDNR by the deadline specified in 40 CFR 63.52(e), if 40 CFR 63 Subpart DDDDD has not been promulgated by that date.

Authority for Requirement: 40 CFR 63.52; 567 IAC 23.1(4)"b"(2)

40 CFR 63 Subpart FFFF Requirements

Parts of this facility will be subject to the Miscellaneous Organic Chemical Manufacturing and Miscellaneous Coating Manufacturing (MON) MACT. This MACT was published in the Federal Register on November 10, 2003. All existing emission units subject to this MACT must demonstrate compliance with all applicable requirements no later than November 10, 2006. Any new affected sources constructed after November 10, 2003 must be able to demonstrate compliance with all applicable requirements upon startup of that equipment.

Initial Notifications 40 CFR 63.2515:

- If an affected source is started up before November 10, 2003, an initial notification must be submitted within 120 calendar days after November 10, 2003.
- If an affected source is started up after November 10, 2003, and initial notification must be submitted within 120 calendar days after the source become subject to this subpart.

Precompliance Report 40 CFR 63.2520(c):

- A Precompliance Report may be required to request approval for items 63.2520(c)(1) – (7). If a Precompliance Report is required, it must be submitted six (6) months prior to the compliance date for existing affected sources, or for new sources, upon application for approval of construction or reconstruction.

Authority for Requirement: 40 CFR Part 63 Subpart FFFF

40 CFR 63 Subpart MMM Requirements

The GT and Multipurpose Units covered by this permit are subject to the Pesticide Active Ingredient (PAI) MACT. Requirements that are specific to certain equipment have been included in the Emission Point-Specific Conditions section of this permit. Some of the more general requirements are listed below.

In case of any discrepancies between this permit and the MACT requirements in the most current CFR, those in the CFR shall apply.

63.1364 Compliance dates.

(a) *Compliance dates for existing sources.*

(1) An owner or operator of an existing affected source must comply with the provisions in this subpart by December 23, 2003.

(2) Pursuant to section 112(i)(3)(B) of the CAA, an owner or operator of an existing source may request an extension of up to 1 additional year to comply with the provisions of this subpart if the additional time is needed for the installation of controls.

(i) For purposes of this subpart, a request for an extension shall be submitted no later than 120 days prior to the compliance date specified in paragraph (a)(1) of this section, except as provided in paragraph (a)(2)(ii) of this section. The dates specified in § 63.6(i) of subpart A of this part for submittal of requests for extensions shall not apply to sources subject to this subpart.

(ii) An owner or operator may submit a compliance extension request after the date specified in paragraph (a)(2)(i) of this section provided the need for the compliance extension arose after that date and before the otherwise applicable compliance date, and the need arose due to circumstances beyond reasonable control of the owner or operator. This request shall include the data described in § 63.6(i)(8)(A), (B), and (D) of subpart A of this part.

(b) *Compliance dates for new and reconstructed sources.* An owner or operator of a new or reconstructed affected source must comply with the provisions of this subpart on June 23, 1999 or upon startup, whichever is later.

63.1367 Recordkeeping requirements.

(a) Requirements of subpart A of this part. The owner or operator of an affected source shall comply with the recordkeeping requirements in subpart A of this part as specified in Table 1 of this subpart[3] and in paragraphs (a)(1) through (5) of this section.

(1) Data retention. Each owner or operator of an affected source shall keep copies of all records and reports required by this subpart for at least 5 years, as specified in §63.10(b)(1) of subpart A of this part.

(2) Records of applicability determinations. The owner or operator of a stationary source that is not subject to this subpart shall keep a record of the applicability determination, as specified in § 63.10(b)(3) of subpart A of this part.

(3) Startup, shutdown, and malfunction plan. The owner or operator of an affected source shall develop and implement a written startup, shutdown, and malfunction plan as specified in § 63.6(e)(3) of subpart A of this part. This plan shall describe, in detail, procedures for operating and maintaining the affected source during periods of startup, shutdown, and malfunction and a program for corrective action for a malfunctioning process, air pollution control, and monitoring equipment used to comply with this subpart. The owner or operator of an affected source shall keep the current and superseded versions of this plan onsite, as specified in § 63.6(e)(3)(v) of subpart A of this part. The owner or operator shall keep the startup, shutdown, and malfunction records specified in paragraphs (a)(3)(i) through (iii) of this section. Reports related to the plan shall be submitted as specified in § 63.1368(i).

[3] Table 1 of 40 CFR 63 Subpart MMM is included in this permit as Appendix D.

(i) The owner or operator shall record the occurrence and duration of each malfunction of the process operations or of air pollution control equipment used to comply with this subpart, as specified in § 63.6(e)(3)(iii).
(ii) The owner or operator shall record the occurrence and duration of each malfunction of continuous monitoring systems used to comply with this subpart.
(iii) For each startup, shutdown, or malfunction, the owner or operator shall record all information necessary to demonstrate that the procedures specified in the affected source's startup, shutdown, and malfunction plan were followed, as specified in § 63.6(e)(3)(iii) of subpart A of this part; alternatively, the owner or operator shall record any actions taken that are not consistent with the plan, as specified in § 63.6(e)(3)(iv) of subpart A of this part.

(4) Recordkeeping requirements for sources with continuous monitoring systems. The owner or operator of an affected source who installs a continuous monitoring system to comply with the alternative standards in § 63.1362(b)(6) or (c)(4) shall maintain records specified in § 63.10(c)(1) through (14) of subpart A of this part.

(5) Application for approval of construction or reconstruction. For new affected sources, each owner or operator shall comply with the provisions regarding construction and reconstruction in § 63.5 of subpart A of this part.

63.1366 Monitoring and Inspection Requirements

(b)(4) Requesting approval to monitor alternative parameters. The owner or operator may request approval to monitor parameters other than those required by paragraphs (b)(ii) through (xiii) of this section. The request shall be submitted according to the procedures specified in §63.8(f) of subpart A of this part or in the Precompliance report (as specified in §63.1368(e)).

63.1368 Reporting requirements.

(a) The owner or operator of an affected source shall comply with the reporting requirements of paragraphs (b) through (l) of this section. The owner or operator shall also comply with applicable paragraphs of § 63.9 and 63.10 of subpart A of this part, as specified in Table 1 of this subpart.

(b) Initial notification. The owner or operator shall submit the applicable initial notification in accordance with § 63.9(b) or (d) of subpart A of this part.

(c) Application for approval of construction or reconstruction. The owner or operator who is subject to § 63.5(b)(3) of subpart A of this part shall submit to the Administrator an application for approval of the construction of a new major source, the reconstruction of a major affected source, or the reconstruction of a major affected source subject to the standards. The application shall be prepared in accordance with § 63.5(d) of subpart A of this part.

(d) Notification of continuous monitoring system performance evaluation. An owner or operator who is required by the Administrator to conduct a performance evaluation for a continuous monitoring system that is used to comply with the alternative standard in § 63.1362(b)(6) or (c)(4) shall notify the Administrator of the date of the performance evaluation as specified in § 63.8(e)(2) of subpart A of this part.

(e) Precompliance plan. The Precompliance plan shall be submitted at least 3 months prior to the compliance date of the standard. For new sources, the Precompliance plan shall be submitted to

the Administrator with the application for approval of construction or reconstruction. The Administrator shall have 90 days to approve or disapprove the Precompliance plan. The Precompliance plan shall be considered approved if the Administrator either approves it in writing, or fails to disapprove it in writing within the 90-day time period. The 90-day period shall begin when the Administrator receives the Precompliance plan. If the Precompliance plan is disapproved, the owner or operator must still be in compliance with the standard by the compliance date. To change any of the information submitted in the Precompliance plan, the owner or operator shall notify the Administrator at least 90 days before the planned change is to be implemented; the change shall be considered approved if the Administrator either approves the change in writing, or fails to disapprove the change in writing within 90 days of receipt of the change. The Precompliance plan shall include the information specified in paragraphs (e)(1) through (6) of this section.

(1) Requests for approval to use alternative monitoring parameters or requests to set monitoring parameters according to § 63.1366(b)(4).

(2) Descriptions of the daily or per batch demonstrations to verify that control devices subject to § 63.1366(b)(1)(i) are operating as designed.

(3) Data and rationale used to support the parametric monitoring level(s) that are set according to § 63.1366(b)(3)(ii)(B).

(4) For owners and operators complying with the requirements of § 63.1362(g), the pollution prevention demonstration summary required in § 63.1365(g)(1).

(5) Data and rationale used to support an engineering assessment to calculate uncontrolled emissions from process vents as required in § 63.1365(c)(2)(ii).

(6) For fabric filters that are monitored with bag leak detectors, an operation and maintenance plan that describes proper operation and maintenance procedures, and a corrective action plan that describes corrective actions to be taken, and the timing of those actions, when the particulate matter concentration exceeds the setpoint and activates the alarm.

(f) Notification of compliance status report. The Notification of Compliance Status report required under § 63.9(h) shall be submitted no later than 150 calendar days after the compliance date and shall include the information specified in paragraphs (f)(1) through (9) of this section.

(1) The results of any applicability determinations, emission calculations, or analyses used to identify and quantify HAP emissions from the affected source.

(2) The results of emissions profiles, performance tests, engineering analyses, design evaluations, or calculations used to demonstrate compliance. For performance tests, results should include descriptions of sampling and analysis procedures and quality assurance procedures.

(3) Descriptions of monitoring devices, monitoring frequencies, and the values of monitored parameters established during the initial compliance determinations, including data and calculations to support the levels established.

(4) Operating scenarios.

(5) Descriptions of absolute or hypothetical peak-case operating and/or testing conditions for control devices.

(6) Identification of emission points subject to overlapping requirements described in § 63.1360(i) and the authority under which the owner or operator will comply, and identification of emission sources discharging to devices described by § 63.1362(l).

(7) Anticipated periods of planned routine maintenance during which the owner or operator would not be in compliance with the provisions in § 63.1362(c)(1) through (4).

(8) Percentage of total production from a PAI process unit that is anticipated to be produced for use as a PAI in the 3 years after either June 23, 1999 or startup, whichever is later.

(9) Records of the initial process units used to create each process unit group, if applicable.

(g) Periodic reports. The owner or operator shall prepare Periodic reports in accordance with paragraphs (g)(1) and (2) of this section and submit them to the Administrator.

(1) Submittal schedule. Except as provided in paragraphs (g)(1)(i) and (ii) of this section, the owner or operator shall submit Periodic reports semiannually. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status report is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status report is due. Each subsequent Periodic report shall cover the 6-month period following the preceding period and shall be submitted no later than 60 days after the end of the applicable period.

(i) The Administrator may determine on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the affected source.

(ii) Quarterly reports shall be submitted when the monitoring data are used to comply with the alternative standards in § 63.1362(b)(6) or (c)(4) and the source experiences excess emissions. Once an affected source reports excess emissions, the affected source shall follow a quarterly reporting format until a request to reduce reporting frequency is approved. If an owner or operator submits a request to reduce the frequency of reporting, the provisions in § 63.10(e)(3) (ii) and (iii) of subpart A of this part shall apply, except that the term "excess emissions and continuous monitoring system performance report and/or summary report" shall mean "Periodic report" for the purposes of this section.

(2) Content of periodic report. The owner or operator shall include the information in paragraphs (g)(2)(i) through (xii) of this section, as applicable.

(i) Each Periodic report must include the information in § 63.10(e)(3)(vi)(A) through (M) of subpart A of this part, as applicable.

(ii) If the total duration of excess emissions, parameter exceedances, or excursions for the reporting period is 1 percent or greater of the total operating time for the reporting period, or the total continuous monitoring system downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the Periodic report must include the information in paragraphs (g)(2)(ii)(A) through (D) of this section.

(A) Monitoring data, including 15-minute monitoring values as well as daily average values of monitored parameters, for all operating days when the average values were outside the ranges established in the Notification of Compliance Status report or operating permit.

(B) Duration of excursions, as defined in § 63.1366(b)(7).

(C) Operating logs and operating scenarios for all operating days when the values are outside the levels established in the Notification of Compliance Status report or operating permit.

(D) When a continuous monitoring system is used, the information required in § 63.10(c)(5) through (13) of subpart A of this part.

(iii) For each vapor collection system or closed vent system with a bypass line subject to § 63.1362(j)(1), records required under § 63.1366(f) of all periods when the vent stream is diverted from the control device through a bypass line. For each vapor collection system or closed vent system with a bypass line subject to § 63.1362(j)(2), records required under § 63.1366(f) of all periods in which the seal mechanism is broken, the bypass valve position has changed, or the key to unlock the bypass line valve was checked out.

(iv) The information in paragraphs (g)(2)(iv)(A) through (D) of this section shall be stated in the Periodic report, when applicable.

(A) No excess emissions.

(B) No exceedances of a parameter.

(C) No excursions.

(D) No continuous monitoring system has been inoperative, out of control, repaired, or adjusted.

(v) For each storage vessel subject to control requirements:

(A) Actual periods of planned routine maintenance during the reporting period in which the control device does not meet the specifications of § 63.1362(c)(5); and

(B) Anticipated periods of planned routine maintenance for the next reporting period.

(vi) For each PAI process unit that does not meet the definition of primary use, the percentage of the production in the reporting period produced for use as a PAI.

(viii) Updates to the corrective action plan.

(ix) Records of process units added to each process unit group, if applicable.

(x) Records of redetermination of the primary product for a process unit group.

(xi) For each inspection conducted in accordance with § 63.1366(h)(2) or (3) during which a leak is detected, the records specify in § 63.1367(h)(4) must be included in the next Periodic report.

(xii) If the owner or operator elects to comply with the provisions of § 63.1362(c) by installing a floating roof, the owner or operator shall submit the information specified in § 63.122(d) through (f) as applicable. References to § 63.152 in § 63.122 shall not apply for the purposes of this subpart.

(h) Notification of process change.

(1) Except as specified in paragraph (h)(2) of this section, whenever a process change is made, or any of the information submitted in the Notification of Compliance Status report changes, the owner or operator shall submit the information specified in paragraphs (h)(1)(i) through (iv) of this section with the next Periodic report required under paragraph (g) of this section. For the purposes of this section, a process change means the startup of a new process, as defined in § 63.1361.

(i) A brief description of the process change;

(ii) A description of any modifications to standard procedures or quality assurance procedures;

(iii) Revisions to any of the information reported in the original Notification of Compliance Status report under paragraph (f) of this section; and

(iv) Information required by the Notification of Compliance Status report under paragraph (f) of this section for changes involving the addition of processes or equipment.

(2) The owner or operator must submit a report 60 days before the scheduled implementation date of either of the following:

(i) Any change in the activity covered by the Precompliance report.

(ii) A change in the status of a control device from small to large.

(i) Reports of startup, shutdown, and malfunction. For the purposes of this subpart, the startup, shutdown, and malfunction reports shall be submitted on the same schedule as the Periodic reports required under paragraph (g) of this section instead of the schedule specified in § 63.10(d)(5)(i) of subpart A of this part. These reports shall include the information specified in § 63.1367(a)(3)(i) through (iii) and shall contain the name, title, and signature of the owner or operator or other responsible official who is certifying its accuracy. Reports are only required if a startup, shutdown, or malfunction occurred during the reporting period. Any time an owner or operator takes an action that is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator shall submit an immediate startup, shutdown, and malfunction report as specified in § 63.10(d)(5)(ii) of subpart A of this part.

(j) Reports of equipment leaks. The owner or operator of an affected source subject to the standards in § 63.1363, shall implement the reporting requirements specified in § 63.1363(h). Copies of all reports shall be retained as records for a period of 5 years, in accordance with the requirements of § 63.10(b)(1) of subpart A of this part.

(k) Reports of emissions averaging. The owner or operator of an affected source that chooses to comply with the requirements of § 63.1362(h) shall submit all information as specified in § 63.1367(d) for all emission points included in the emissions average. The owner or operator shall also submit to the Administrator all information specified in paragraph (g) of this section for each emission point included in the emissions average.

(1) The reports shall also include the information listed in paragraphs (k)(1)(i) through (iv) of this section:

(i) Any changes to the processes, storage tanks, or waste management unit included in the average.

(ii) The calculation of the debits and credits for the reporting period.

(iii) Changes to the Emissions Averaging Plan which affect the calculation methodology of uncontrolled or controlled emissions or the hazard or risk equivalency determination.

(iv) Any changes to the parameters monitored according to § 63.1366(g).

(2) Every second semiannual or fourth quarterly report, as appropriate, shall include the results according to § 63.1367(d)(4) to demonstrate the emissions averaging provisions of § 63.1362(h), § 63.1365(h), § 63.1366(g), and § 63.1367(d) are satisfied.

(l) Reports of heat exchange systems. The owner or operator of an affected source subject to the requirements for heat exchange systems in § 63.1362(f) shall submit information about any delay of repairs as specified in § 63.104(f)(2) of subpart F of this part, except that when the phrase "periodic reports required by § 63.152(c) of subpart G of this part" is referred to in § 63.104(f)(2) of subpart F of this part, the periodic reports required in paragraph (g) of this section shall apply for the purposes of this subpart.

(m) Notification of performance test and test Plan. The owner or operator of an affected source shall notify the Administrator of the planned date of a performance test at least 60 days before the test in accordance with § 63.7(b) of subpart A of this part. The owner or operator also must submit the test Plan required by § 63.7(c) of subpart A of this part and the emission profile required by § 63.1365(b)(11)(iii) with the notification of the performance test.

(n) Request for extension of compliance. The owner or operator may submit to the Administrator a request for an extension of compliance in accordance with § 63.1364(a)(2).
(o) The owner or operator who submits an operating permit application before the date the Emissions Averaging Plan is due shall submit the information specified in paragraphs (o)(1) through (3) of this section with the operating permit application instead of the Emissions Averaging Plan.

(1) The information specified in § 63.1367(d) for emission points included in the emissions average;
(2) The information specified in § 63.9(h) of subpart A of this part, as applicable; and
(3) The information specified in paragraph (e) of this section, as applicable.

Authority for Requirement: 567 IAC 23.1(4)"bm"
40 CFR 63, Subpart MMM

III. Emission Point-Specific Conditions

Facility Name: Monsanto Company - Muscatine
Permit Number: **04-TV-002**

CAC Unit

Emission Point Number	Associated Emission Unit Number(s)	Associated Emission Unit Description
EP 37	EU-11-106	CAC Ketene Furnace
EP 38	EU-11-111-1	CAC Process Incinerator Burner
	EU-11-111-2	CAC Distillation Columns
	EU-11-S-1-2	Process Off-gas
EP 234	EU-11-119-1	CAC Process Flare Burner
	EU-11-119-2	Acid Cracking
EP 243	EU-11-S-1-1	CAC Process Vents
	EU-11-S-1-2	Process Off-gas
	EU-11-BL	CAC Truck Loading
	EU-11-275	Chlorinated Waste Feed Tank
EP 328	EU-11-138	Acetic Acid Storage Tank
EP 39	EU-11-FUG	CAC Unit Fugitive Emissions

Emission Point ID Number: EP 37

Associated Equipment

Associated Emission Unit ID Number: EU-11-106

Applicable Requirements

Emission Unit vented through this Emission Point: EU-11-106
Emission Unit Description: CAC Ketene Furnace
Raw Material/Fuel: Natural Gas
Rated Capacity: 16 MMBtu/hr

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit: 0.1 gr/scf
Authority for Requirement: 567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit: 500 ppmv
Authority for Requirement: 567 IAC 23.3(3)"e"

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP 38

Applicable Requirements

Emission Point Number	Control Equipment Number	Control Equipment Description	Emission Unit Number	Emission Unit Description	Raw Material	Rated Capacity
EP 38	CE-11-111	Incinerator Scrubber	EU-11-111-1	CAC Process Incinerator: Burner	Natural Gas	7.4 MMBtu/hr
			EU-11-111-2	CAC Distillation Columns	Column Waste	1,410 lb/hr
	CE-11-114	Incinerator	EU-11-S-1-2	Process Off-Gas	Process Off-Gas	8,800 lb/hr*

* This Rated Capacity applies specifically to CAC production. Emission factors used for Process Off-Gas are based on CAC production.

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40 %(1), (2)
Authority for Requirement: Iowa DNR Construction Permit 73-A-111-S2
567 IAC 23.3(2)"d"

(1) Per DNR Air Quality Policy 3-b-08, Opacity Limits, an exceedance of the indicator opacity of (25%) will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. The permit holder shall also file an "indicator opacity exceedance report" with the DNR field office and keep records as required in the policy. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

(2) Visible air contaminants in excess of 60% opacity may be emitted for a period or period aggregating not more than 3 minutes in any 60-minute period during an operation breakdown or during the cleaning of air pollution control equipment.

Pollutant: Particulate Matter
Emission Limit: 0.35 gr/dscf
Authority for Requirement: Iowa DNR Construction Permit 73-A-111-S2
567 IAC 23.4(12)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit: 500 ppmv
Authority for Requirement: Iowa DNR Construction Permit 73-A-111-S2
567 IAC 23.3(3)"e"

Pollutant: Chlorine (Cl_2)
Emission Limit: 10.13 lb/hr(3
Authority for Requirement: Iowa DNR Construction Permit 73-A-111-S2
(3) Standard is expressed as the average of three (3) runs.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Process throughput:

1. The waste streams from the Light Ends Column (EU 11-111-2) and Process Off-Gas (EU 11-S-1-2) shall not vent without the CAC Process Incinerator (CE 11-114) and the CAC Incinerator Scrubber (CE 11-111) operating within the parameters specified below.
2. During waste incineration, the temperature of the CAC Process Incinerator (CE 11-114) shall be at least 816º C.
3. During waste incineration, the water flow rate to the CAC Incinerator Scrubber (CE 11-111) shall be at least 34 gallons per minute.
4. During waste incineration, the temperature in the CAC Incinerator Scrubber (CE 11-111) shall be less than 150º C.

Control equipment parameters:

1. All control equipment and parametric monitors shall be maintained according to the manufacturer's specifications.

Reporting & Record keeping:

Records must be maintained onsite for at least five years and made available to the DNR upon request.

1. The owner or operator shall maintain a record of all inspections and calibrations of the control equipment and associated parametric monitors. The owner or operator shall document the results of the inspections and calibrations and note any repairs that were the result of the inspections and calibrations.
2. The owner or operator shall maintain a record of the date and duration of each instance where the waste streams from the Light Ends Column (EU 11-111-2) and the Process Off-Gas (EU 11-S-1-2) is vented without the CAC Process Incinerator (CE 11-114) and the CAC Incinerator Scrubber (CE 11-111) operating within the parameters specified above.
3. The owner or operator shall maintain a record of the temperature of the CAC Process Incinerator (CE 11-114). The temperature shall be recorded at an interval of at least once every 15 minutes while the incinerator is burning Light Ends Column Overheads and/or Process Off-Gas.
4. The owner or operator shall maintain a record of the waste feed rate to the CAC Process Incinerator (CE 11-114). The waste feed rate shall be recorded at an interval of at least once every 15 minutes while the incinerator is burning Light Ends Column Overheads and/or Process Off-Gas.
5. The owner or operator shall maintain a record of the water flow rate to the CAC Incinerator Scrubber (CE 11-111). The water usage rate shall be recorded at an interval of at least once every 15 minutes while the incinerator is burning Light Ends Column Overheads and/or Process Off-Gas.

6. The owner or operator shall maintain a record of the temperature in the CAC Incinerator Scrubber (CE 11-111). The temperature shall be recorded at an interval of at least once every 15 minutes while the incinerator is burning Light Ends Column Overheads and/or Process Off-Gas.

Authority for Requirement: Iowa DNR Construction Permit 73-A-111-S2

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height (feet): 76
Stack Diameter (inches): 36
Stack Exhaust Flow Rate (scfm): 2,150
Stack Temperature (^{o}F): 205
Vertical, Unobstructed Discharge Required: Yes ☒ No ☐
Authority for Requirement: Iowa DNR Construction Permit 73-A-111-S2

It shall be the owner's responsibility to ensure that construction conforms with the emission point characteristics stated above. If it is determined that any of the emission point characteristics are different than stated above, the owner must notify the Department and obtain a construction permit amendment, if required.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Stack Testing:

Pollutant – Particulate Matter(1)
Stack Test to be Completed by – within 60 days after achieving maximum production rate and no later than one hundred eighty (180) days after the initial startup date
Test Method – Iowa Compliance Sampling Manual Method 5
Authority for Requirement – Iowa Construction Permit 73-A-111-S2

Pollutant – Opacity(1)
Stack Test to be Completed by - within 60 days after achieving maximum production rate and no later than one hundred eighty (180) days after the initial startup date
Test Method – 40 CFR 60, Appendix A, Method 9
Authority for Requirement – Iowa DNR Construction Permit 73-A-111-S2

Pollutant – Chlorine(1)
Stack Test to be Completed by – within 60 days after achieving maximum production rate and no later than one hundred eighty (180) days after the initial startup date
Test Method – 40 CFR 60, Appendix A, Method 26A
Authority for Requirement – Iowa DNR Construction Permit 73-A-111-S2

(1) Test Run Time = 1 hour

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP 234

Applicable Requirements

Emission Point Number	Control Equipment Number	Control Equipment Description	Emission Unit Number	Emission Unit Description	Raw Material	Rated Capacity
EP 234	CE-11-119	Process Flare	EU-11-119-1	CAC Process Flare Burner	Natural Gas	34 MMBtu/hr
			EU-11-119-2	Acid Cracking	Acetic Acid	5,600 lb/hr

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit: 0.1 gr/scf
Authority for Requirement: 567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit: 500 ppmv
Authority for Requirement: 567 IAC 23.3(3)"e"

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP 243

Applicable Requirements

Emission Point Number	Control Equipment Number	Control Equipment Description	Emission Unit Number	Emission Unit Description	Raw Material	Rated Capacity
EP 243	CE-11-S-1	CAC Process Scrubber	EU-11-S-1-1	CAC Process Vents	CAC	8,800 lb/hr
			EU-11-S-1-2	Process Off-gas	Process Off-gas	390 hr/yr
			EU-11-BL	CAC Truck Loading	Hazardous Waste	84,000 lb/hr
			EU-11-275	Chlorinated Waste Feed Tank	Hazardous Waste	12,500 gallons

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Volatile Organic Compounds (VOC's)
Emission Limit(s): 8.7 tons/yr[(1)]
Authority for Requirement: Iowa DNR Construction Permit 87-A-102-S2

[(1)] Standard is a 12-month rolling total.

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Hours of operation:
1. CAC process off-gas (POG) may be vented to the CAC process scrubber for a maximum of 390 hours in any rolling 12-month period.

Process Throughput:
1. The material loaded into trucks shall be limited to solvent column bottoms (SCB) generated in the CAC process.

Reporting & Record keeping:
Records must be maintained onsite for at least five years and made available to the DNR upon request.
1. The permittee shall keep the following monthly records:
   a) The number of hours that the CAC process off-gas (POG) was vented to the scrubber;
   b) The rolling, 12-month total of the number of hours that the CAC process off-gas (POG) was vented to the scrubber.

2. The permittee shall maintain a record whenever material other than CAC solvent column bottoms is loaded into trucks.

Authority for Requirement: Iowa DNR Construction Permit 87-A-102-S2

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height (feet): 106
Stack Diameter (inches): 16
Stack Exhaust Flow Rate (scfm): 2,900
Stack Temperature (^{o}F): 70
Vertical, Unobstructed Discharge Required: Yes ☒ No ☐
Authority for Requirement: Iowa DNR Construction Permit 87-A-102-S2

It shall be the owner's responsibility to ensure that construction conforms with the emission point characteristics stated above. If it is determined that any of the emission point characteristics are different than stated above, the owner must notify the Department and obtain a construction permit amendment, if required.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP 328

Associated Equipment

Associated Emission Unit ID Number: EU-11-138

Applicable Requirements

Emission Unit vented through this Emission Point: EU-11-138
Emission Unit Description: Acetic Acid Storage Tank
Raw Material/Fuel: Acetic Acid
Rated Capacity: 80,000 gallons

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

There are no applicable emission limits at this time

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Reporting & Record keeping:
Records shall be kept on site for at least five years and shall be available for inspection by the Department.

1. A Material Safety Data Sheet (MSDS) for all chemicals stored in the tank.
2. During the first twelve (12) months of operation, determine the total throughput of material for each month of operation.
3. After the first twelve (12) months of operation, determine the annual throughput of material on a rolling 12 month basis for each month of operation.

Authority for Requirement: Iowa DNR Construction Permit 97-A-1012

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP 39

Associated Equipment

Associated Emission Unit ID Number: EU-11-FUG

Applicable Requirements

Emission Unit vented through this Emission Point: EU-11-FUG
Emission Unit Description: CAC Unit Fugitive Emissions
Raw Material/Fuel: VOC-containing raw materials and products of the CAC Unit
Rated Capacity: NA

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

There are no applicable emission limits at this time.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

ETFAA Unit

Emission Point Number	Associated Emission Unit Number(s)	Associated Emission Unit Description
EP 275	EU-17-558-1	ETFAA Flare Burner
	EU-17-558-2	ETFAA Process
	EU-17-588	ETFAA Storage Tank
	EU-17-500	Solvent Storage Tank
	EU-17-580	Recycled Solvent Storage Tank
	EU-17-586	Recycled Oxetane Storage Tank
	EU-17-621	Organic Waste Storage Tank
	EU-17-BL	Tank Truck Loading Rack
EP 276	EU-17-557-1	ETFAA Ketene Flare Burner
	EU-17-557-2	Ketene Compression Purge
EP 277	EU-17-588	ETFAA Storage Tank
	EU-17-500	Solvent Storage Tank
	EU-17-580	Recycled Solvent Storage Tank
	EU-17-586	Recycled Oxetane Storage Tank
	EU-17-621	Organic Waste Storage Tank
	EU-17-BL	Tank Truck Loading Rack
EP 279	EU-17-FUG	ETFAA Unit Fugitive Emissions

Emission Point ID Number: EP 275

Applicable Requirements

Emission Point Number	Control Equipment Number	Control Equipment Description	Emission Unit Number	Emission Unit Description	Raw Material	Rated Capacity
EP 275	CE-17-611 CE-17-558	ETFAA HCl Scrubber ETFAA Flare	EU-17-558-1	ETFAA Flare Burner	Natural Gas	5.3 MMBtu/hr
			EU-17-558-2	ETFAA Process	ETFAA	570 lb/hr
			EU-17-588*	ETFAA Storage Tank	ETFAA	18,000 gallons
			EU-17-500*	Solvent Storage Tank	Solvent	18,000 gallons
			EU-17-580*	Recycled Solvent Storage Tank	Recycled Solvent	10,000 gallons
			EU-17-586*	Recycled Oxetane Storage Tank	Recycled Oxetane	13,000 gallons
			EU-17-621*	Organic Waste Storage Tank	Organic Waste	10,000 gallons
			EU-17-BL*	Tank Truck Loading Rack	ETFAA/ Organic Waste	970 lb/hr

* When the ETFAA Process is not operating, emissions from this equipment may be vented directly to the atmosphere through the ETFAA Vent Manifold (EP 277).

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit: 0.1 gr/scf
Authority for Requirement: 567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit: 500 ppmv
Authority for Requirement: 567 IAC 23.3(3)"e"

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP 276

Applicable Requirements

Emission Point Number	Control Equipment Number	Control Equipment Description	Emission Unit Number	Emission Unit Description	Raw Material	Rated Capacity
EP 276	CE-17-557	ETFAA Ketene Flare	EU-17-557-1	Ketene Flare Burner	Natural Gas	2.6 MMBtu/hr
			EU-17-557-2	Ketene Compression Purge	Ketene	4.72 lb/hr

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit: 0.1 gr/scf
Authority for Requirement: 567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit: 500 ppmv
Authority for Requirement: 567 IAC 23.3(3)"e"

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP 277

Applicable Requirements

Emission Point Number	Control Equipment Number	Control Equipment Description	Emission Unit Number	Emission Unit Description	Raw Material	Rated Capacity
EP 277	N/A	N/A	EU-17-588*	ETFAA Storage Tank	ETFAA	18,000 gallons
			EU-17-500*	Solvent Storage Tank	Solvent	18,000 gallons
			EU-17-580*	Recycled Solvent Storage Tank	Recycled Solvent	10,000 gallons
			EU-17-586*	Recycled Oxetane Storage Tank	Recycled Oxetane	13,000 gallons
			EU-17-621*	Organic Waste Storage Tank	Organic Waste	10,000 gallons
			EU-17-BL*	Tank Truck Loading Rack	ETFAA/ Organic Waste	970 lb/hr

* When the ETFAA Process is operating, emissions from this equipment are vented through EP 275.

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

There are no applicable emission limits at this time.

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Requirements for Emission Units EU-17-588, EU-17-500, EU-17-580, EU-17-586, and EU-17-621 are listed under the Emission Point-Specific Conditions for EP 275.

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet): 74
Stack Diameter (inches): 6
Stack Exhaust Flow Rate (scfm): 2.6
Stack Temperature (^{o}F): Ambient
Discharge Style: Vertical with Obstructing Raincap
Authority for Requirement: Iowa DNR Construction Permit 93-A-242-S1

It shall be the owner's responsibility to ensure that construction conforms with the emission point characteristics stated above. If it is determined that any of the emission point characteristics are different than stated above, the owner must notify the Department and obtain a construction permit amendment, if required.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP 279

Associated Equipment

Associated Emission Unit ID Number: EU-17-FUG

Applicable Requirements

Emission Unit vented through this Emission Point: EU-17-FUG
Emission Unit Description: ETFAA Unit Fugitive Emissions
Raw Material/Fuel: VOC-containing raw materials and products of the ETFAA Unit
Rated Capacity: NA

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

There are no applicable emission limits at this time.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

GT Unit

Emission Point Number	Associated Emission Unit Number(s)	Associated Emission Unit Description
EP 306	EU-4-0211	Tech Reactor #1
	EU-4-0231	Tech Reactor #2
	EU-4-1124	Tech Reactor #3
	EU-4-0220	Tech Reactor Vent Tank
	EU-4-0290	Flash Tank
EP 307	EU-4-0170	GI Slurry Tank
	EU-4-0219	Hot Water Tank
	EU-4-0239	Reactor Feed Tank
	EU-4-0246	Recycle Catalyst Tank
	EU-4-0255	Process Sump Tank
	EU-4-0336	Waste Catalyst Tank
	EU-4-0415	Evaporator Feed Tank
	EU-4-0485	Distillate Receiver #1
	EU-4-0500	Centrifuge Feed Tank
	EU-4-0515	Centrifuge #1
	EU-4-0516	Centrifuge #2
	EU-4-0519	Centrifuge #3
	EU-4-0525	Centrate Tank
	EU-4-0530	Spent Mother Liquor Tank
	EU-4-0550	#3 Centrifuge Tank
	EU-4-0640	Wet Cake Hopper
	EU-4-0679	Crystallizer
	EU-4-0685	Distillate Receiver #2
	EU-4-0700	Packout Hopper
	EU-4-0701	Packout Centrifuge #1
	EU-4-0702	Packout Centrifuge #2
	EU-4-0703	Packout Tank
	EU-4-0715	Centrifuge #4
	EU-4-0725	Centrate Feed Tank
	EU-4-0734	Packout System
	EU-4-0750	#4 Centrifuge Tank
	EU-4-0920	Amination Reactor
	EU-4-0930	Amination Tank
	EU-4-0773	Reslurry Tank
EP 312	EU-4-0950	#1 Salt Adjust Tank
EP 313	EU-4-0960	#2 Salt Adjust Tank
EP 318	EU-4-0139	GI Railcar Unloading
	EU-4-0345	Spent Catalyst Packout Tank

GT Unit (continued)

Emission Point Number	Associated Emission Unit Number(s)	Associated Emission Unit Description
EP 319	EU-4-0160	#1 Bulk GI Storage Tank
EP 338	EU-4-0165	#2 Bulk GI Storage Tank
EP 337	EU-4-FUG	GT Unit Fugitive Emissions
EP 391	EU-4-1120	Closed Loop Coolant Tank

Emission Point ID Number: 306

Applicable Requirements

Emission Point Number	Control Equipment Number	Control Equipment Description	Emission Unit Number	Emission Unit Description	Raw Material	Rated Capacity (gallons)
EP 306	CE-4-0229	Tech Reactor Scrubber	EU-4-0211	Tech Reactor #1	GT	17,500
			EU-4-0231	Tech Reactor #2	GT	17,500
			EU-4-1124	Tech Reactor #3	GT	6,835
			EU-4-0220	Technical Reactor Vent Tank	GT	14,000
			EU-4-0290	Flash Tank	GT	2,500

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: VOC
Emission Limit: 2.0 lb/hr [(1)]; 13.2 ton/yr [(2)]
Authority for Requirement: Iowa DNR Construction Permit 97-A-182-S8

(1) Limit to ensure that the sum of all VOC emissions related to this project is below the annual allowable.

(2) 12-month rolling total of all emission points associated with this project (bubble limit) (Permits 97-A-182-S8, 97-A-183-S8, 97-A-184-S4, 97-A-185-S4, 97-A-186-S4, 97-A-188-S4, 97-A-189-S5, 98-A-940-S3, 99-A-305-S3, 99-A-1077-S2 and 99-A-1078-S2).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating Limits:

1. The packed scrubber shall be operated and maintained according to manufacturer's specifications.
2. The owner or operator shall comply with all applicable requirements of 40 CFR 63 Subpart MMM by the compliance date specified in that standard for existing affected sources, or within an extension period requested and granted under 40 CFR 63.1364(a)(2) if applicable.

Reporting & Record keeping:

Records shall be kept on site for at least five years and shall be available for inspection by the Department.

1. The owner or operator shall comply with all applicable requirements of 40 CFR 63 Subpart MMM by the compliance date specified in that standard for existing affected sources, or within an extension period requested and granted under 40 CFR 63.1364(a)(2) if applicable.
2. The owner or operator shall keep maintenance records on the scrubber.

Authority for Requirement: Iowa DNR Construction Permit 97-A-182-S8

The PAI MACT requirements in this section shall become effective as of the compliance date specified in 40 CFR 63.1364(a). Appendix A of this permit contains the text of referenced 40 CFR paragraphs 63.1365(c)(2) and (3), and 63.1366(b)(2) and (3).

Standards:

40 CFR 63.1362(b)(2)(iii)

Uncontrolled organic HAP emissions from the sum of all process vents within a process shall be reduced by 90 percent or greater by weight. [This standard applies to the equipment venting through Emission Points 306, 307, 312, 313, and 318.]

Initial Compliance Procedures:

40 CFR 63.1365(c)(1)(iii)

Initial compliance with the organic HAP percent reduction requirements specified in 63.1362(b)(2)(iii) is demonstrated by determining controlled HAP emissions using the procedures described in paragraph 63.1365(c)(3), determining uncontrolled HAP emissions using the procedures described in paragraph 63.1365(c)(2), and calculating the applicable percent reduction.

Monitoring:

40 CFR 63.1366(b)(1)(ii)

For affected sources using liquid scrubbers, the owner or operator shall establish a minimum scrubber liquid flow rate or pressure drop as a site-specific operating parameter which must be measured and recorded at least once every 15 minutes during the period in which the scrubber is controlling HAP from an emission stream as required by the standards in § 63.1362. If the scrubber uses a caustic solution to remove acid emissions, the pH of the effluent scrubber liquid shall also be monitored once a day. The minimum scrubber liquid flow rate or pressure drop shall be based on the conditions under which the initial compliance demonstration was conducted.

(A) The monitoring device used to determine the pressure drop shall be certified by the manufacturer to be accurate to within a gage pressure of ±10 percent of the maximum pressure drop measured.

(B) The monitoring device used for measurement of scrubber liquid flowrate shall be certified by the manufacturer to be accurate to within ±10 percent of the design scrubber liquid flowrate.

(C) The monitoring device shall be calibrated annually.

40 CFR 63.1366(b)(1)(x)

Continuous emission monitor. As an alternative to the parameters specified in paragraphs (b)(1)(ii) through (ix) of this section, an owner or operator may monitor and record the outlet HAP concentration or both the outlet TOC concentration and outlet total HCl and chlorine concentration at least every 15 minutes during the period in which the control device is controlling HAP from an emission stream subject to the standards in § 63.1362. The owner or operator need not monitor the total HCl and chlorine concentration if the owner or operator determines that the emission stream does not contain HCl or chlorine. The owner or operator need not monitor the TOC concentration if the owner or operator determines the emission stream does not contain organic compounds. The HAP or TOC monitor must meet

the requirements of Performance Specification 8 or 9 of appendix B of part 60 and must be installed, calibrated, and maintained, according to § 63.8 of subpart A of this part. As part of the QA/QC Plan, calibration of the device must include, at a minimum, quarterly cylinder gas audits. If supplemental gases are introduced before the control device, the monitored concentration shall be corrected as specified in § 63.1365(a)(7).

40 CFR 63.1366(b)(2)
Averaging periods for parametric monitoring levels shall be established according to paragraphs 63.1366(b)(2)(i) through (iii).

40 CFR 63.1366(b)(3)
Parameter levels for control devices shall be set according to paragraphs 63.1366(b)(3)(i) through (iii).

Recording and Record keeping:
The owner or operator must keep the following records up-to-date and readily accessible. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

40 CFR 63.1367(b)(1)
Each measurement of a control device operating parameter monitored in accordance with § 63.1366.

40 CFR 63.1367(b)(6)
The owner or operator of an affected source that complies with the standards for process vents, storage tanks, and wastewater systems shall maintain up-to-date, readily accessible records of the information specified in paragraphs 63.1367(b)(6)(i) through (viii) to document that HAP emissions or HAP loadings (for wastewater) are below the limits specified in § 63.1362.

(i) The initial calculations of uncontrolled and controlled emissions of gaseous organic HAP and HCl per batch for each process.
(ii) The wastewater concentrations and flow rates per POD and process.
(iii) The number of batches per year for each batch process.
(iv) The operating hours per year for continuous processes.
(v) The number of batches and the number of operating hours for processes that contain both batch and continuous operations.
(vi) The number of tank turnovers per year, if used in an emissions average or for determining applicability of a new PAI process unit.
(vii) A description of absolute or hypothetical peak-case operating conditions as determined using the procedures in § 63.1365(b)(11).
(viii) Periods of planned routine maintenance as described in § 63.1362(c)(5).

40 CFR 63.1367(b)(10)
All maintenance performed on the air pollution control equipment.

Authority for Requirement: 567 IAC 23.1(4)"bm"
40 CFR 63, Subpart MMM

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet, from the ground): 111
Stack Diameter (inches): 20
Exhaust Flow Rate (scfm): 3,310
Exhaust Temperature (^{o}F): 88
Vertical, Unobstructed Discharge Required: Yes ☒ No ☐
Authority for Requirement: Iowa DNR Construction Permit 97-A-182-S8

It shall be the owner's responsibility to ensure that construction conforms with the emission point characteristics stated above. If it is determined that any of the emission point characteristics are different than stated above, the owner must notify the Department and obtain a construction permit amendment, if required.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: 307

Applicable Requirements

Emission Point Number	Control Equipment Number	Control Equipment Description	Emission Unit Number	Emission Unit Description	Raw Material	Rated Capacity (gallons)*
EP 307	CE-4-0785	Process Fume Scrubber	EU-4-0170	GI Slurry Tank	GI	27,260
			EU-4-0219	Hot Water Tank	GT	34,800
			EU-4-0239	Reactor Feed Tank	GT	8,320
			EU-4-0246	Recycle Catalyst Tank	GT	3,295
			EU-4-0255	Process Sump Tank	GT	2,350
			EU-4-0336	Waste Catalyst Tank	GT	3,295
			EU-4-0415	Evaporator Feed Tank	GT	22,322
			EU-4-0485	Distillate Receiver #1	GT	1,500
			EU-4-0500	Centrifuge Feed Tank	GT	5,718
			EU-4-0515	Centrifuge #1	GT	28,500 lb/hr
			EU-4-0516	Centrifuge #2	GT	28,500 lb/hr
			EU-4-0519	Centrifuge #3	GT	28,500 lb/hr
			EU-4-0525	Centrate Tank	GT	900
			EU-4-0530	Spent Mother Liquor Tank	GT	27,100
			EU-4-0550	#3 Centrifuge Tank	GT	4,380
			EU-4-0640	Wet Cake Hopper	GT	28,500 lb/hr
			EU-4-0679	Crystallizer	Glyphosate Solution	86,000
			EU-4-0685	Distillate Receiver #2	GT	390
			EU-4-0700	Packout Hopper	GT	10,000 lb/hr
			EU-4-0701	Packout Centrifuge #1	GT	10,000 lb/hr
			EU-4-0702	Packout Centrifuge #2	GT	10,000 lb/hr
			EU-4-0703	Packout Tank	GT	10,000 lb/hr
			EU-4-0715	Centrifuge #4	GT	240
			EU-4-0725	Centrate Feed Tank	GT	556
			EU-4-0734	Packout System	GT	10,000 lb/hr
			EU-4-0750	#4 Centrifuge Tank	GT	2,090
			EU-4-0920	Amination Reactor	GT	1,500
			EU-4-0930	Amination Tank	Glyphosate Salt	1,500
	CE-4-0771 CE-4-0785	GI Dust Collector Process Fume Scrubber	EU-4-0773	Reslurry Tank	GI & GT	17,000

* Unless otherwise noted.

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40% (1)
Authority for Requirement: 567 IAC 23.3(2)"d"
Iowa DNR Construction Permit 97-A-183-S8

(1) Per DNR Air Quality Policy 3-b-08, Opacity Limits, an exceedence of the indicator opacity of 10% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedence. The permit holder shall also file an "indicator opacity exceedence report" with the DNR field office and keep records as required in the policy. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: PM_{10}
Emission Limit: 0.34 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 97-A-183-S8

Pollutant: Particulate Matter
Emission Limit: 0.1 gr/dscf; 0.34 lb/hr
Authority for Requirement: 567 IAC 23.3(2)"a"

Pollutant: VOC
Emission Limit: 1.0 lb/hr (2); 13.2 ton/yr (3)
Authority for Requirement: Iowa DNR Construction Permit 97-A-183-S8

(2) Total VOC emissions for permit 97-A-183-S8 shall not exceed 4.38 tons per year.

(3) 12-month rolling total of all emission points associated with this project (bubble limit) (Permits 97-A-182-S8, 97-A-183-S8, 97-A-184-S4, 97-A-185-S4, 97-A-186-S4, 97-A-188-S4, 97-A-189-S5, 98-A-940-S3, 99-A-305-S3, 99-A-1077-S2 and 99-A-1078-S2).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating Limits

1. The packed scrubber and dust collector shall be operated and maintained according to manufacturer's specifications.
2. The owner or operator shall comply with all applicable requirements of 40 CFR 63 Subpart MMM after the existing source compliance date listed in 40 CFR §63.1364(a).

Reporting & Record keeping:
Records shall be kept on site for at least five years and shall be available for inspection by the Department.

1. The owner or operator shall comply with all applicable monitoring and recordkeeping requirements of 40 CFR 63 Subpart MMM after the existing source compliance date listed in 40 CFR §63.1364(a).
2. The owner or operator shall keep maintenance records on the scrubber and dust collector.

Authority for Requirement: Iowa DNR Construction Permit 97-A-183-S8

The PAI MACT requirements in this section shall become effective as of the compliance date specified in 40 CFR 63.1364(a). Appendix A of this permit contains the text of referenced 40 CFR paragraphs 63.1365(c)(2) and (3), and 63.1366(b)(2) and (3).

Standards:

40 CFR 63.1362(b)(2)(iii)

Uncontrolled organic HAP emissions from the sum of all process vents within a process shall be reduced by 90 percent or greater by weight. [This standard applies to the equipment venting through Emission Points 306, 307, 312, 313, and 318.]

Initial Compliance Procedures:

40 CFR 63.1365(c)(1)(iii)

Initial compliance with the organic HAP percent reduction requirements specified in 63.1362(b)(2)(iii) is demonstrated by determining controlled HAP emissions using the procedures described in paragraph 63.1365(c)(3), determining uncontrolled HAP emissions using the procedures described in paragraph 63.1365(c)(2), and calculating the applicable percent reduction.

Monitoring:

40 CFR 63.1366(b)(1)(ii)

For affected sources using liquid scrubbers, the owner or operator shall establish a minimum scrubber liquid flow rate or pressure drop as a site-specific operating parameter which must be measured and recorded at least once every 15 minutes during the period in which the scrubber is controlling HAP from an emission stream as required by the standards in § 63.1362. If the scrubber uses a caustic solution to remove acid emissions, the pH of the effluent scrubber liquid shall also be monitored once a day. The minimum scrubber liquid flow rate or pressure drop shall be based on the conditions under which the initial compliance demonstration was conducted.

(A) The monitoring device used to determine the pressure drop shall be certified by the manufacturer to be accurate to within a gage pressure of ±10 percent of the maximum pressure drop measured.

(B) The monitoring device used for measurement of scrubber liquid flowrate shall be certified by the manufacturer to be accurate to within ±10 percent of the design scrubber liquid flowrate.

(C) The monitoring device shall be calibrated annually.

40 CFR 63.1366(b)(1)(x)
Continuous emission monitor. As an alternative to the parameters specified in paragraphs (b)(1)(ii) through (ix) of this section, an owner or operator may monitor and record the outlet HAP concentration or both the outlet TOC concentration and outlet total HCl and chlorine concentration at least every 15 minutes during the period in which the control device is controlling HAP from an emission stream subject to the standards in § 63.1362. The owner or operator need not monitor the total HCl and chlorine concentration if the owner or operator determines that the emission stream does not contain HCl or chlorine. The owner or operator need not monitor the TOC concentration if the owner or operator determines the emission stream does not contain organic compounds. The HAP or TOC monitor must meet the requirements of Performance Specification 8 or 9 of appendix B of part 60 and must be installed, calibrated, and maintained, according to § 63.8 of subpart A of this part. As part of the QA/QC Plan, calibration of the device must include, at a minimum, quarterly cylinder gas audits. If supplemental gases are introduced before the control device, the monitored concentration shall be corrected as specified in § 63.1365(a)(7).

40 CFR 63.1366(b)(2)
Averaging periods for parametric monitoring levels shall be established according to paragraphs 63.1366(b)(2)(i) through (iii).

40 CFR 63.1366(b)(3)
Parameter levels for control devices shall be set according to paragraphs 63.1366(b)(3)(i) through (iii).

Recording and Record keeping:
The owner or operator must keep the following records up-to-date and readily accessible. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

40 CFR 63.1367(b)(1)
Each measurement of a control device operating parameter monitored in accordance with § 63.1366.

40 CFR 63.1367(b)(6)
The owner or operator of an affected source that complies with the standards for process vents, storage tanks, and wastewater systems shall maintain up-to-date, readily accessible records of the information specified in paragraphs 63.1367(b)(6)(i) through (viii) to document that HAP emissions or HAP loadings (for wastewater) are below the limits specified in § 63.1362.

(i) The initial calculations of uncontrolled and controlled emissions of gaseous organic HAP and HCl per batch for each process.
(ii) The wastewater concentrations and flow rates per POD and process.
(iii) The number of batches per year for each batch process.
(iv) The operating hours per year for continuous processes.
(v) The number of batches and the number of operating hours for processes that contain both batch and continuous operations.

(vi) The number of tank turnovers per year, if used in an emissions average or for determining applicability of a new PAI process unit.
(vii) A description of absolute or hypothetical peak-case operating conditions as determined using the procedures in § 63.1365(b)(11).
(viii) Periods of planned routine maintenance as described in § 63.1362(c)(5).

40 CFR 63.1367(b)(10)
All maintenance performed on the air pollution control equipment.

Authority for Requirement: 567 IAC 23.1(4)"bm"
40 CFR 63, Subpart MMM

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet, from the ground): 105
Stack Diameter (inches): 16
Exhaust Flow Rate (scfm): 4,000
Exhaust Temperature (^{o}F): 105
Vertical, Unobstructed Discharge Required: Yes ☒ No ☐
Authority for Requirement: Iowa DNR Construction Permit 97-A-183-S8

The packed scrubber is connected to the emission units described in the table at the beginning of the Applicable Requirements section for this emission point.

It shall be the owner's responsibility to ensure that construction conforms with the emission point characteristics stated above. If it is determined that any of the emission point characteristics are different than stated above, the owner must notify the Department and obtain a construction permit amendment, if required.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: See Table

Applicable Requirements

Emission Point Number	Emission Unit Number	Emission Unit Description	Raw Material	Rated Capacity
EP 312	EU-4-0950	#1 Salt Adjust Tank	Glyphosate Salt	13,000 gallons
EP 313	EU-4-0960	#2 Salt Adjust Tank	Glyphosate Salt	13,000 gallons
EP 318	EU-4-0139	GI Railcar Unloading	Glyphosate Intermediate	487,000 lb/hr
	EU-4-0345	Spent Catalyst Packout Tank	Catalyst	3,295 gallons

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)

The emissions from these emission points shall not exceed the levels specified below.

EP 318:
Pollutant: Opacity
Emission Limit (EP 318 only): 40% (1)
Authority for Requirement: 567 IAC 23.3(2)"d"
Iowa DNR Construction Permit 97-A-188-S4

(1) Per DNR Air Quality Policy 3-b-08, Opacity Limits, an exceedence of the indicator opacity of 25% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedence. The permit holder shall also file an "indicator opacity exceedence report" with the DNR field office and keep records as required in the policy. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter
Emission Limit (EP 318 only): 0.1 gr/scf
Authority for Requirement: 567 IAC 23.3(2)"a"
Iowa DNR Construction Permit 97-A-188-S4

EP's 312, 313, & 318:
Pollutant: VOC
Emission Limit: 13.2 ton/yr (2)
Authority for Requirement: Iowa DNR Construction Permits specified below

(2) 12-month rolling total of all emission points associated with this project (bubble limit) (Permits 97-A-182-S8, 97-A-183-S8, 97-A-184-S4, 97-A-185-S4, 97-A-186-S4, 97-A-188-S4, 97-A-189-S5, 98-A-940-S3, 99-A-305-S3, 99-A-1077-S2 and 99-A-1078-S2).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

The PAI MACT requirements in this section shall become effective as of the compliance date specified in 40 CFR 63.1364(a). Appendix A of this permit contains the text of referenced 40 CFR paragraphs 63.1365(c)(2) and (3), and 63.1366(b)(2) and (3).

Standards:

40 CFR 63.1362(b)(2)(iii)

Uncontrolled organic HAP emissions from the sum of all process vents within a process shall be reduced by 90 percent or greater by weight. [This standard applies to the equipment venting through Emission Points 306, 307, 312, 313, and 318.]

Recording and Record keeping:

The owner or operator must keep the following records up-to-date and readily accessible. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

40 CFR 63.1367(b)(6)

The owner or operator of an affected source that complies with the standards for process vents, storage tanks, and wastewater systems shall maintain up-to-date, readily accessible records of the information specified in paragraphs 63.1367(b)(6)(i) through (viii) to document that HAP emissions or HAP loadings (for wastewater) are below the limits specified in § 63.1362.

(i) The initial calculations of uncontrolled and controlled emissions of gaseous organic HAP and HCl per batch for each process.

(ii) The wastewater concentrations and flow rates per POD and process.

(iii) The number of batches per year for each batch process.

(iv) The operating hours per year for continuous processes.

(v) The number of batches and the number of operating hours for processes that contain both batch and continuous operations.

(vi) The number of tank turnovers per year, if used in an emissions average or for determining applicability of a new PAI process unit.

(vii) A description of absolute or hypothetical peak-case operating conditions as determined using the procedures in § 63.1365(b)(11).

(viii) Periods of planned routine maintenance as described in § 63.1362(c)(5).

Authority for Requirement: 567 IAC 23.1(4)"bm"
40 CFR 63, Subpart MMM

Emission Point Characteristics

These emission points shall conform to the conditions specified in the table below.

Emission Point Number	Emission Unit Number	Construction Permit #	Height (feet)	Stack Diameter (inches)	Exhaust Flowrate (scfm)	Exhaust Temp. (^{o}F)	Discharge Style
EP 312	EU-4-0950	97-A-184-S4	25	8	Natural Draft	120	Downward
EP 313	EU-4-0960	97-A-185-S4	25	8	Natural Draft	120	Downward
EP 318	EU-4-0139 EU-4-0345	97-A-188-S4	45	12	2,500	70	Horizontal

It shall be the owner's responsibility to ensure that construction conforms with the emission point characteristics stated above. If it is determined that any of the emission point characteristics are different than stated above, the owner must notify the Department and obtain a construction permit amendment, if required.

Authority for Requirement: Iowa DNR Construction Permits specified in the table above

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: See Table

Applicable Requirements

Emission Point Number	Emission Unit Number	Emission Unit Description	Raw Material	Rated Capacity
EP 319	EU-4-0160	#1 Bulk GI Storage Tank	Glyphosate Intermediate	25,160 gallons
EP 338	EU-4-0165	#2 Bulk GI Storage Tank	Glyphosate Intermediate	25,160 gallons

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)

The emissions from these emission points shall not exceed the levels specified below.

Pollutant: VOC
Emission Limit: 13.2 ton/yr [(1)]
Authority for Requirement: Iowa DNR Construction Permits 97-A-189-S5 and 99-A-305-S3

(1) 12-month rolling total of all emission points associated with this project (bubble limit) (Permits 97-A-182-S8, 97-A-183-S8, 97-A-184-S4, 97-A-185-S4, 97-A-186-S4, 97-A-188-S4, 97-A-189-S5, 98-A-940-S3, 99-A-305-S3, 99-A-1077-S2 and 99-A-1078-S2).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

NESHAP:

1. The owner or operator shall comply with all applicable requirements of 40 CFR 63 Subpart MMM by the compliance date specified in the standard for existing affected sources or within an extension period requested and granted under 40 CFR 63.1364(a)(2) if applicable.

Authority for Requirement: Iowa DNR Construction Permits 97-A-189-S5 and 99-A-305-S3

Reporting & Record keeping:

Records shall be kept on site for at least five years and shall be available for inspection by the Department.

1. Material Safety Data Sheets (MSDS) shall be kept for all chemicals stored in the tank.

Authority for Requirement: Iowa DNR Construction Permits 97-A-189-S5 and 99-A-305-S3

Emission Point Characteristics

These emission points shall conform to the conditions specified in the table below.

Emission Point Number	Emission Unit Number	Construction Permit #	Height (feet)	Stack Diameter (inches)	Exhaust Flowrate (scfm)	Exhaust Temp. (^{o}F)	Discharge Style
EP 319	EU-4-0160	97-A-189-S5	1	6	Natural Draft	105	Downward
EP 338	EU-4-0165	99-A-305-S3	1	6	Natural Draft	105	Downward

It shall be the owner's responsibility to ensure that construction conforms with the emission point characteristics stated above. If it is determined that any of the emission point characteristics are different than stated above, the owner must notify the Department and obtain a construction permit amendment, if required.

Authority for Requirement: Iowa DNR Construction Permits 97-A-189-S5 and 99-A-305-S3

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP 337

Associated Equipment

Associated Emission Unit ID Number: EU-4-FUG

Applicable Requirements

Emission Unit vented through this Emission Point: EU-4-FUG
Emission Unit Description: GT Unit Fugitive Emissions
Raw Material/Fuel: VOC-containing raw materials and products of the GT Unit
Rated Capacity: NA

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

There are no applicable emission limits at this time.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP 391

Associated Equipment

Associated Emission Unit ID Number: EU-13-1120

Applicable Requirements

Emission Unit vented through this Emission Point: EU-4-1120
Emission Unit Description: Closed Loop Coolant Tank
Raw Material/Fuel: Water w/ Biocide
Rated Capacity: 2,320 gallons

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

There are no applicable emission limits for this emission unit at this time.

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

The PAI MACT requirements in this section shall become effective as of the compliance date specified in 40 CFR 63.1364(a). Appendix A of this permit contains the text of referenced 40 CFR paragraphs 63.1365(c)(2) and (3), and 63.1366(b)(2) and (3).

Standards:
40 CFR 63.1363(f) Heat exchange systems. Unless one or more of the conditions specified in §63.104(a)(1) through (6) of subpart F of this part are met, an owner or operator shall monitor each heat exchange system that is used to cool process equipment in PAI process units that are part of an affected source as defined in §63.1360(a) according to the provisions in either §63.104(b) or (c) of subpart F of this part. When the term "chemical manufacturing process unit" is used in §63.104(c) of subpart F of this part, the term "PAI process unit" shall apply for the purposes of this subpart. Whenever a leak is detected, the owner or operator shall comply with the requirements in §63.104(d) of subpart F of this part. Delay of repair of heat exchange systems for which leaks have been detected is allowed in accordance with the provisions of §63.104(e) of subpart F of this part.

Authority for Requirement: 567 IAC 23.1(4)"bm"
40 CFR 63, Subpart MMM

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet): 20
Stack Diameter (inches): 2
Stack Exhaust Flow Rate (scfm): Breathing Loss
Downward Required: Yes ☒ No ☐
Authority for Requirement: Iowa DNR Construction Permit 03-A-732

It shall be the owner's responsibility to ensure that construction conforms with the emission point characteristics stated above. If it is determined that any of the emission point characteristics are different than stated above, the owner must notify the Department and obtain a construction permit amendment, if required.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Multipurpose Unit

Emission Point Number	Associated Emission Unit Number(s)	Associated Emission Unit Description
EP 4	EU-9-0302	Step I Aqueous Waste Storage Tank
EP 6	EU-9TK-3B	Aniline Storage Tank
EP 8	EU-9-FUG	Multipurpose Unit Fugitive Emissions
EP 10	EU-9-0300	Step I Aqueous Waste Storage Tank
EP 11	EU-9TK-12	Propachlor Storage Tank
EP 18	EU-9-0601	Autoclave #1
	EU-9-0603	Autoclave #2
	EU-9-0615	Autoclave Receiver #1
	EU-9-0617	Autoclave Receiver #2
EP 44	EU-9TK-335	NIPA Storage Tank
EP 138	EU-9TK-28	Step IV Aqueous Waste Storage Tank
EP 151	EU-9-2925-01-0903	MON 13900 Manufacturing & NIPA/Propachlor Manufacturing
	EU-9TK-25	NIPA/Propachlor Manufacturing - Step II Reactor
	EU-9-0201	NIPA/Propachlor Manufacturing - CAC Stripper
EP 155	EU-9TK-36	Premix Day Tank
EP 206	EU-9TK-44	Step IV Aqueous Waste Storage Tank
EP 206A	EU-9TK-45	Step IV Aqueous Waste Storage Tank
EP 286	EU-13-0949	Technical Storage Tank "D"
EP 315	EU-9-0539	Nitromethane Furfural Storage Tank
EP 316	EU-9-0503	Organic Waste Storage Tank
EP 327	EU-9-0477	Step II Residue Drumming
EP 330	EU-9-TL	Wastewater Truck Loading
EP 331	EU-9-RL	Wastewater Rail Car Loading
EP 387	EU-9-0564	Evaporator System Vacuum Pump Separator
EP 392	EU-9-ULS	Propachlor Rework Unloading Station
EP 393	EU-9-0629	NIPA Column Vent

Emission Point ID Number: EP 4

Associated Equipment

Associated Emission Unit ID Number: EU-9-0302

Applicable Requirements

Emission Unit vented through this Emission Point: EU-9-0302
Emission Unit Description: Step I Aqueous Waste Storage Tank
Raw Material/Fuel: MON 13900
Rated Capacity: 12,500 gallons

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

There are no applicable emission limits at this time.

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet): 15.5
Stack Diameter (inches): 4
Exhaust Flow Rate (acfm): N/A
Exhaust Temperature (^{o}F): Ambient
Vertical, Unobstructed Discharge Required: Yes ☐ No ☒
Authority for Requirement: Iowa DNR Construction Permit 97-A-202

It shall be the owner's responsibility to ensure that construction conforms with the emission point characteristics stated above. If it is determined that any of the emission point characteristics are different than stated above, the owner must notify the Department and obtain a construction permit amendment, if required.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP 6

Associated Equipment

Associated Emission Unit ID Number: EU-9TK-3B

Applicable Requirements

Emission Unit vented through this Emission Point: EU-9TK-3B
Emission Unit Description: Aniline Storage Tank
Raw Material/Fuel: Aniline
Rated Capacity: 20,000 gallons

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

There are no applicable emission limits at this time.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP 8

Associated Equipment

Associated Emission Unit ID Number: EU-9-FUG

Applicable Requirements

Emission Unit vented through this Emission Point: EU-9-FUG
Emission Unit Description: Multipurpose Unit Fugitive Emissions
Raw Material/Fuel: VOC-containing raw materials and products of the Multipurpose Unit
Rated Capacity: NA

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

There are no applicable emission limits at this time.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP 10

Associated Equipment

Associated Emission Unit ID Number: EU-9-0300

Applicable Requirements

Emission Unit vented through this Emission Point: EU-9-0300
Emission Unit Description: Step I Aqueous Waste Storage Tank
Raw Material/Fuel: MON 13900
Rated Capacity: 12,500 gallons

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

There are no applicable emission limits at this time.

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet): 15.5
Stack Diameter (inches): 4
Exhaust Flow Rate (acfm): N/A
Exhaust Temperature (^{o}F): Ambient
Vertical, Unobstructed Discharge Required: Yes ☐ No ☒
Authority for Requirement: Iowa DNR Construction Permit 97-A-203

It shall be the owner's responsibility to ensure that construction conforms with the emission point characteristics stated above. If it is determined that any of the emission point characteristics are different than stated above, the owner must notify the Department and obtain a construction permit amendment, if required.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP 11

Associated Equipment

Associated Emission Unit ID Number: EU-9TK-12

Applicable Requirements

Emission Unit vented through this Emission Point: EU-9TK-12
Emission Unit Description: Propachlor Storage Tank
Raw Material/Fuel: Propachlor
Rated Capacity: 30,000 gallons

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

There are no applicable emission limits at this time.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: 18

Applicable Requirements

Emission Point Number	Control Equipment Number	Control Equipment Description	Emission Unit Number	Emission Unit Description	Raw Material	Rated Capacity
EP 18	CE-9-0605	Condenser	EU-9-0601	Autoclave #1	MON 13900	467 lb/hr
	CE-9-0609	Condenser	EU-9-0603	Autoclave #2		
	CE-9C-5	Condenser	EU-9-0615	Autoclave Receiver #1	NIPA	2,854 lb/hr
	CE-9C-6	Condenser	EU-9-0617	Autoclave Receiver #2		

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

There are no applicable emission limits at this time.

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

The PAI MACT requirements in this section shall become effective as of the compliance date specified in 40 CFR 63.1364(a). Appendix A of this permit contains the text of referenced 40 CFR paragraphs 63.1365(c)(2) and (3), and 63.1366(b)(2) and (3).

Standards:

63.1362(b)(2)(iii)
Uncontrolled organic HAP emissions from the sum of all process vents within a process shall be reduced by 90 percent or greater by weight. [This standard applies to the equipment venting through Emission Points 18, 151, and 387.]

Initial Compliance Procedures:

63.1365(c)(1)(iii)
Initial compliance with the organic HAP percent reduction requirements specified in 63.1362(b)(2)(iii) is demonstrated by determining controlled HAP emissions using the procedures described in paragraph 63.1365(c)(3), determining uncontrolled HAP emissions using the procedures described in paragraph 63.1365(c)(2), and calculating the applicable percent reduction.

Monitoring:

63.1366(b)(1)(iii)
For each condenser, the owner or operator shall establish the maximum condenser outlet gas temperature as a site-specific operating parameter which must be measured and recorded at least once every 15 minutes during the period in which the condenser is controlling HAP from an emission stream as required by the standards in § 63.1362.

(A) The temperature monitoring device must be accurate to within ±2 percent of the temperature measured in degrees Celsius or ±2.5 °C, whichever is greater.
(B) The temperature monitoring device must be calibrated annually.

40 CFR 63.1366(b)(1)(x)
Continuous emission monitor. As an alternative to the parameters specified in paragraphs (b)(1)(ii) through (ix) of this section, an owner or operator may monitor and record the outlet HAP concentration or both the outlet TOC concentration and outlet total HCl and chlorine concentration at least every 15 minutes during the period in which the control device is controlling HAP from an emission stream subject to the standards in § 63.1362. The owner or operator need not monitor the total HCl and chlorine concentration if the owner or operator determines that the emission stream does not contain HCl or chlorine. The owner or operator need not monitor the TOC concentration if the owner or operator determines the emission stream does not contain organic compounds. The HAP or TOC monitor must meet the requirements of Performance Specification 8 or 9 of appendix B of part 60 and must be installed, calibrated, and maintained, according to § 63.8 of subpart A of this part. As part of the QA/QC Plan, calibration of the device must include, at a minimum, quarterly cylinder gas audits. If supplemental gases are introduced before the control device, the monitored concentration shall be corrected as specified in § 63.1365(a)(7).

63.1366(b)(2)
Averaging periods for parametric monitoring levels shall be established according to paragraphs 63.1366(b)(2)(i) through (iii).

63.1366(b)(3)
Parameter levels for control devices shall be set according to paragraphs 63.1366(b)(3)(i) through (iii).

Recording and Record keeping:
The owner or operator must keep the following records up-to-date and readily accessible. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

63.1367(b)(1)
Each measurement of a control device operating parameter monitored in accordance with § 63.1366.

63.1367(b)(6)
The owner or operator of an affected source that complies with the standards for process vents, storage tanks, and wastewater systems shall maintain up-to-date, readily accessible records of the information specified in paragraphs 63.1367(b)(6)(i) through (viii) to document that HAP emissions or HAP loadings (for wastewater) are below the limits specified in § 63.1362.
(i) The initial calculations of uncontrolled and controlled emissions of gaseous organic HAP and HCl per batch for each process.
(ii) The wastewater concentrations and flow rates per POD and process.

(iii) The number of batches per year for each batch process.
(iv) The operating hours per year for continuous processes.
(v) The number of batches and the number of operating hours for processes that contain both batch and continuous operations.
(vi) The number of tank turnovers per year, if used in an emissions average or for determining applicability of a new PAI process unit.
(vii) A description of absolute or hypothetical peak-case operating conditions as determined using the procedures in § 63.1365(b)(11).
(viii) Periods of planned routine maintenance as described in § 63.1362(c)(5).

40 CFR 63.1367(b)(10)
All maintenance performed on the air pollution control equipment.

Authority for Requirement: 567 IAC 23.1(4)"bm"
40 CFR 63, Subpart MMM

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet): 55
Stack Diameter (inches): 24
Exhaust Flow Rate (acfm): N/A
Exhaust Temperature (^{o}F): 95
Vertical, Unobstructed Discharge Required: Yes ☐ No ☒
Authority for Requirement: Iowa DNR Construction Permit 97-A-204

It shall be the owner's responsibility to ensure that construction conforms with the emission point characteristics stated above. If it is determined that any of the emission point characteristics are different than stated above, the owner must notify the Department and obtain a construction permit amendment, if required.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP 44

Associated Equipment

Associated Emission Unit ID Number: EU-9TK-335

Applicable Requirements

Emission Unit vented through this Emission Point: EU-9TK-335
Emission Unit Description: NIPA Storage Tank
Raw Material/Fuel: NIPA
Rated Capacity: 205,000 gallons

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

There are no applicable emission limits at this time.

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Reporting & Record keeping:
Records shall be kept on site for at least five years and shall be available for inspection by the Department.

1. The amount of material put through this vessel over the previous month shall be recorded at the end of each month. The total amount of material put through this vessel over the previous twelve months shall also be recorded at the end of each month.
2. An estimate of the amount of VOC's emitted from this vessel over the previous month shall be recorded at the end of each month. The total amount of VOC's emitted from this vessel over the previous twelve months shall also be recorded at the end of each month.

Authority for Requirement: Iowa DNR Construction Permit 99-A-882

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet): 15
Stack Diameter (inches): 6
Exhaust Flow Rate (scfm): 0.13
Exhaust Temperature (^{o}F): 68
Discharge Style: Downward
Authority for Requirement: Iowa DNR Construction Permit 99-A-882

It shall be the owner's responsibility to ensure that construction conforms with the emission point characteristics stated above. If it is determined that any of the emission point characteristics are different than stated above, the owner must notify the Department and obtain a construction permit amendment, if required.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: 138

Associated Equipment

Associated Emission Unit ID Numbers: EU-9TK-28

Applicable Requirements

Emission Unit vented through this Emission Point: EU-9TK-28
Emission Unit Description: Step IV Aqueous Waste Storage Tank
Raw Material/Fuel: MON 13900
Rated Capacity: 6,000 gallons

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

There are no applicable emission limits at this time.

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet): 0.5
Stack Diameter (inches): 6
Exhaust Flow Rate (acfm): N/A
Exhaust Temperature (^{o}F): Ambient
Vertical, Unobstructed Discharge Required: Yes ☐ No ☒
Authority for Requirement: Iowa DNR Construction Permit 97-A-205

It shall be the owner's responsibility to ensure that construction conforms with the emission point characteristics stated above. If it is determined that any of the emission point characteristics are different than stated above, the owner must notify the Department and obtain a construction permit amendment, if required.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: 151

Applicable Requirements

Emission Point Number	Control Equipment Number	Control Equipment Description	Emission Unit Number	Emission Unit Description	Raw Material	Rated Capacity (lb/hr)
EP 151	CE-9-0903	Caustic Scrubber	EU-9-2925-01-0903	MON 13900 Manufacturing & NIPA/Propachlor Manufacturing	MON 13900 Propachlor	467 4,395
	CE-9D-30A	Absorber	EU-9TK-25	NIPA/Propachlor Manufacturing - Step II Reactor	Propachlor	4,395
	CE-9-0903	Caustic Scrubber				
	CE-9D-30	Absorber	EU-9-0201	NIPA/Propachlor Manufacturing - CAC Stripper	Propachlor	4,395
	CE-9-0903	Caustic Scrubber				

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit: 40%
Authority for Requirement: 567 IAC 23.3(2)"d"
Iowa DNR Construction Permit 78-A-179

Pollutant: Particulate Matter
Emission Limit: 0.1 gr/scf
Authority for Requirement: 567 IAC 23.3(2)"a"
Iowa DNR Construction Permit 78-A-179

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

The PAI MACT requirements in this section shall become effective as of the compliance date specified in 40 CFR 63.1364(a). Appendix A of this permit contains the text of referenced 40 CFR paragraphs 63.1365(c)(2) and (3), and 63.1366(b)(2) and (3).

Standards:

40 CFR 63.1362(b)(2)(iii)
Uncontrolled organic HAP emissions from the sum of all process vents within a process shall be reduced by 90 percent or greater by weight. [This standard applies to the equipment venting through Emission Points 18, 151, and 387.]

40 CFR 63.1362(b)(3)(ii)
HCl and Cl_2 emissions, including HCl generated from combustion of halogenated process vent emissions, from the sum of all process vents within a process shall be reduced by 94 percent or greater or to outlet concentrations less than or equal to 20 ppmv. [This standard applies to the equipment venting through Emission Point 151.]

Initial Compliance Procedures:
40 CFR 63.1365(c)(1)(iii)
Initial compliance with the organic HAP percent reduction requirements specified in 63.1362(b)(2)(iii) is demonstrated by determining controlled HAP emissions using the procedures described in paragraph 63.1365(c)(3), determining uncontrolled HAP emissions using the procedures described in paragraph 63.1365(c)(2), and calculating the applicable percent reduction.

40 CFR 63.1365(c)(1)(iv)
Initial compliance with the HCl and Cl_2 percent reduction requirements specified in 63.1362(b)(3)(ii) is demonstrated by determining controlled emissions of HCl and Cl_2 using the procedures described in paragraph 63.1365(c)(3), determining uncontrolled emissions of HCl and Cl_2 using the procedures described in paragraph 63.1365(c)(2), and calculating the applicable percent reduction.

Monitoring:
40 CFR 63.1366(b)(1)(ii)
For affected sources using liquid scrubbers, the owner or operator shall establish a minimum scrubber liquid flow rate or pressure drop as a site-specific operating parameter which must be measured and recorded at least once every 15 minutes during the period in which the scrubber is controlling HAP from an emission stream as required by the standards in § 63.1362. If the scrubber uses a caustic solution to remove acid emissions, the pH of the effluent scrubber liquid shall also be monitored once a day. The minimum scrubber liquid flow rate or pressure drop shall be based on the conditions under which the initial compliance demonstration was conducted.

(A) The monitoring device used to determine the pressure drop shall be certified by the manufacturer to be accurate to within a gage pressure of ±10 percent of the maximum pressure drop measured.

(B) The monitoring device used for measurement of scrubber liquid flowrate shall be certified by the manufacturer to be accurate to within ±10 percent of the design scrubber liquid flowrate.

(C) The monitoring device shall be calibrated annually.

40 CFR 63.1366(b)(1)(x)
Continuous emission monitor. As an alternative to the parameters specified in paragraphs (b)(1)(ii) through (ix) of this section, an owner or operator may monitor and record the outlet HAP concentration or both the outlet TOC concentration and outlet total HCl and chlorine concentration at least every 15 minutes during the period in which the control device is controlling HAP from an emission stream subject to the standards in § 63.1362. The owner or operator need not monitor the total HCl and chlorine concentration if the owner or

operator determines that the emission stream does not contain HCl or chlorine. The owner or operator need not monitor the TOC concentration if the owner or operator determines the emission stream does not contain organic compounds. The HAP or TOC monitor must meet the requirements of Performance Specification 8 or 9 of appendix B of part 60 and must be installed, calibrated, and maintained, according to § 63.8 of subpart A of this part. As part of the QA/QC Plan, calibration of the device must include, at a minimum, quarterly cylinder gas audits. If supplemental gases are introduced before the control device, the monitored concentration shall be corrected as specified in § 63.1365(a)(7).

40 CFR 63.1366(b)(2)
Averaging periods for parametric monitoring levels shall be established according to paragraphs 63.1366(b)(2)(i) through (iii).

40 CFR 63.1366(b)(3)
Parameter levels for control devices shall be set according to paragraphs 63.1366(b)(3)(i) through (iii).

Recording and Record keeping:
The owner or operator must keep the following records up-to-date and readily accessible. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

40 CFR 63.1367(b)(1)
Each measurement of a control device operating parameter monitored in accordance with § 63.1366.

40 CFR 63.1367(b)(6)
The owner or operator of an affected source that complies with the standards for process vents, storage tanks, and wastewater systems shall maintain up-to-date, readily accessible records of the information specified in paragraphs 63.1367(b)(6)(i) through (viii) to document that HAP emissions or HAP loadings (for wastewater) are below the limits specified in § 63.1362.

(i) The initial calculations of uncontrolled and controlled emissions of gaseous organic HAP and HCl per batch for each process.
(ii) The wastewater concentrations and flow rates per POD and process.
(iii) The number of batches per year for each batch process.
(iv) The operating hours per year for continuous processes.
(v) The number of batches and the number of operating hours for processes that contain both batch and continuous operations.
(vi) The number of tank turnovers per year, if used in an emissions average or for determining applicability of a new PAI process unit.
(vii) A description of absolute or hypothetical peak-case operating conditions as determined using the procedures in § 63.1365(b)(11).
(viii) Periods of planned routine maintenance as described in § 63.1362(c)(5).

40 CFR 63.1367(b)(10)
All maintenance performed on the air pollution control equipment.

Authority for Requirement: 567 IAC 23.1(4)"bm"
40 CFR 63, Subpart MMM

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP 155

Associated Equipment

Associated Emission Unit ID Number: EU-9TK-36

Applicable Requirements

Emission Unit vented through this Emission Point: EU-9TK-36
Emission Unit Description: Premix Day Tank
Raw Material/Fuel: Acetochlor; MON 13900
Rated Capacity: 19,000 gallons

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

There are no applicable emission limits at this time.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP 206

Associated Equipment

Associated Emission Unit ID Number: EU-9TK-44

Applicable Requirements

Emission Unit vented through this Emission Point: EU-9TK-44
Emission Unit Description: Step IV Aqueous Waste Storage Tank
Raw Material/Fuel: MON 13900
Rated Capacity: 6,000 gallons

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

There are no applicable emission limits at this time.

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet): 27*
Stack Diameter (inches): 6*
Exhaust Flow Rate (acfm): N/A
Exhaust Temperature (°F): Ambient
Vertical, Unobstructed Discharge Required: Yes ☐ No ☒
Authority for Requirement: Iowa DNR Construction Permit 97-A-206
* Construction Permit 97-A-206 lists a stack height of 0.5 feet and a stack diameter of 3 inches. The stack height and stack diameter are actually 27 feet and 6 inches respectively. According to IDNR memo dated October 38, 2003, the facility shall apply to modify this Construction Permit to correct these parameters within 60 days from issuance of this Title V permit.

It shall be the owner's responsibility to ensure that construction conforms with the emission point characteristics stated above. If it is determined that any of the emission point characteristics are different than stated above, the owner must notify the Department and obtain a construction permit amendment, if required.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP 206A

Associated Equipment

Associated Emission Unit ID Number: EU-9TK-45

Applicable Requirements

Emission Unit vented through this Emission Point: EU-9TK-45
Emission Unit Description: Step IV Aqueous Waste Storage Tank
Raw Material/Fuel: MON 13900
Rated Capacity: 6,000 gallons

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

There are no applicable emission limits at this time.

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Equipment Capacity: This tank must hold a maximum of 6,000 gallons of liquid.
Authority for Requirement: Iowa DNR Construction Permit 97-A-372

Reporting & Record keeping:
Records shall be kept on site for at least five years and shall be available for inspection by the Department.
1. The owner or operator shall keep readily accessible records showing the dimensions of the storage vessel and an analysis showing the capacity of the tank.

Authority for Requirement: 567 IAC 22.108(4)

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet): 27
Stack Diameter (inches): 6*
Exhaust Flow Rate (acfm): N/A
Exhaust Temperature (^{o}F): 70
Vertical, Unobstructed Discharge Required: Yes ☐ No ☒
Authority for Requirement: Iowa DNR Construction Permit 97-A-372
* Construction Permit 97-A-372 lists a stack diameter of 3 inches. The correct stack diameter is 6 inches.

It shall be the owner's responsibility to ensure that construction conforms with the emission point characteristics stated above. If it is determined that any of the emission point characteristics are different than stated above, the owner must notify the Department and obtain a construction permit amendment, if required.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP 286

Associated Equipment

Associated Emission Unit ID Number: EU-13-0949

Applicable Requirements

Emission Unit vented through this Emission Point: EU-13-0949
Emission Unit Description: Technical Storage Tank "D"
Raw Material/Fuel: Acetochlor; MON 13900
Rated Capacity: 270,000 gallons

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

There are no applicable emission limits at this time.

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Operating Limits:
1. The storage vessel shall not store a liquid with a maximum true vapor pressure greater than 0.010 mmHg.
2. The storage tank shall be insulated.

Authority for Requirement: Iowa DNR Construction Permit 95-A-507

Reporting & Record keeping:
Records shall be kept on site for at least five years and shall be available for inspection by the Department.
1. The VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.

Authority for Requirement: Iowa DNR Construction Permit 95-A-507

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP 315

Associated Equipment

Associated Emission Unit ID Number: EU-9-0539

Applicable Requirements

Emission Unit vented through this Emission Point: EU-9-0539
Emission Unit Description: Nitromethane Furfural Storage Tank
Raw Material/Fuel: Nitromethane Furfural Blend
Rated Capacity: 20,000 gallons

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

There are no applicable emission limits at this time.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP 316

Associated Equipment

Associated Emission Unit ID Number: EU-9-0503

Applicable Requirements

Emission Unit vented through this Emission Point: EU-9-0503
Emission Unit Description: Organic Waste Storage Tank
Raw Material/Fuel: Organic waste (methanol)
Rated Capacity: 11,000 gallons

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

There are no applicable emission limits at this time.

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet): 38
Stack Diameter (inches): 3*
Exhaust Flow Rate (acfm): N/A
Exhaust Temperature (^{o}F): Ambient
Vertical, Unobstructed Discharge Required: Yes ☐ No ☒
Authority for Requirement: Iowa DNR Construction Permit 97-A-207
* Construction Permit 97-A-207 lists a stack diameter of 2 inches. The correct stack diameter is 3 inches.

It shall be the owner's responsibility to ensure that construction conforms with the emission point characteristics stated above. If it is determined that any of the emission point characteristics are different than stated above, the owner must notify the Department and obtain a construction permit amendment, if required.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP 327

Associated Equipment

Associated Emission Unit ID Number: EU-9-0477

Applicable Requirements

Emission Unit vented through this Emission Point: EU-9-0477
Emission Unit Description: Step II Residue Drumming
Raw Material/Fuel: MON 13900 Step II Residue
Rated Capacity: 87 lb/hr

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

There are no applicable emission limits at this time.

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet): 71.6
Stack Diameter (inches): 4
Exhaust Flow Rate (acfm): 200
Exhaust Temperature (^{o}F): 85
Vertical, Unobstructed Discharge Required: Yes ☐ No ☒
Authority for Requirement: Iowa DNR Construction Permit 97-A-861

It shall be the owner's responsibility to ensure that construction conforms with the emission point characteristics stated above. If it is determined that any of the emission point characteristics are different than stated above, the owner must notify the Department and obtain a construction permit amendment, if required.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP 330

Associated Equipment

Associated Emission Unit ID Number: EU-9-TL

Applicable Requirements

Emission Unit vented through this Emission Point: EU-9-TL
Emission Unit Description: Wastewater Truck Loading
Raw Material/Fuel: MON 13900 Step I and Step IV aqueous waste
Rated Capacity: 7,359 lb/hr

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

There are no applicable emission limits at this time.

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet): 26
Stack Diameter (inches): 2
Exhaust Flow Rate (scfm): 5
Exhaust Temperature (^{o}F): 70
Discharge Style: Horizontal
Authority for Requirement: Iowa DNR Construction Permit 99-A-554

It shall be the owner's responsibility to ensure that construction conforms with the emission point characteristics stated above. If it is determined that any of the emission point characteristics are different than stated above, the owner must notify the Department and obtain a construction permit amendment, if required.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP 331

Associated Equipment

Associated Emission Unit ID Number: EU-9-RL

Applicable Requirements

Emission Unit vented through this Emission Point: EU-9-RL
Emission Unit Description: Wastewater Rail Car Loading
Raw Material/Fuel: MON 13900 Step I and Step IV aqueous waste
Rated Capacity: 7,359 lb/hr

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

There are no applicable emission limits at this time.

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet): 12
Stack Diameter (inches): 20
Exhaust Flow Rate (scfm): 5
Exhaust Temperature (^{o}F): 70
Discharge Style: Vertical Unobstructed*
Authority for Requirement: Iowa DNR Construction Permit 99-A-555
* Construction Permit 99-A-555 requires a horizontal discharge. The discharge style is actually vertical unobstructed. According to IDNR memo dated October 38, 2003, the facility shall apply to modify this Construction Permit to correct these parameters within 60 days from issuance of this Title V permit.

It shall be the owner's responsibility to ensure that construction conforms with the emission point characteristics stated above. If it is determined that any of the emission point characteristics are different than stated above, the owner must notify the Department and obtain a construction permit amendment, if required.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP 387

Associated Equipment

Associated Emission Unit ID Number: EU-9-0564

Applicable Requirements

Emission Unit vented through this Emission Point: EU-9-0564
Emission Unit Description: Evaporator System Vacuum Pump Separator
Raw Material/Fuel: MON 13900
Rated Capacity: 456 lb/hr

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

There are no applicable emission limits at this time.

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

The PAI MACT requirements in this section shall become effective as of the compliance date specified in 40 CFR 63.1364(a). Appendix A of this permit contains the text of referenced 40 CFR paragraphs 63.1365(c)(2) and (3), and 63.1366(b)(2) and (3).

Standards:

40 CFR 63.1362(b)(2)(iii)
Uncontrolled organic HAP emissions from the sum of all process vents within a process shall be reduced by 90 percent or greater by weight. [This standard applies to the equipment venting through Emission Points 18, 151, and 387.]

Recording and Record keeping:
The owner or operator must keep the following records up-to-date and readily accessible. Records shall be kept on site for at least five years and shall be available for inspection by the Department.

40 CFR 63.1367(b)(6)
The owner or operator of an affected source that complies with the standards for process vents, storage tanks, and wastewater systems shall maintain up-to-date, readily accessible records of the information specified in paragraphs 63.1367(b)(6)(i) through (viii) to document that HAP emissions or HAP loadings (for wastewater) are below the limits specified in § 63.1362.

(i) The initial calculations of uncontrolled and controlled emissions of gaseous organic HAP and HCl per batch for each process.
(ii) The wastewater concentrations and flow rates per POD and process.

(iii) The number of batches per year for each batch process.
(iv) The operating hours per year for continuous processes.
(v) The number of batches and the number of operating hours for processes that contain both batch and continuous operations.
(vi) The number of tank turnovers per year, if used in an emissions average or for determining applicability of a new PAI process unit.
(vii) A description of absolute or hypothetical peak-case operating conditions as determined using the procedures in § 63.1365(b)(11).
(viii) Periods of planned routine maintenance as described in § 63.1362(c)(5).

Authority for Requirement: 567 IAC 23.1(4)"bm"
40 CFR 63, Subpart MMM

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet): 57
Stack Diameter (inches): 2
Stack Exhaust Flow Rate (acfm): 26
Stack Temperature (^{o}F): 100
Discharge Type: Vertical Obstructed or Horizontal
Authority for Requirement: Iowa DNR Construction Permit 03-A-192

It shall be the owner's responsibility to ensure that construction conforms with the emission point characteristics stated above. If it is determined that any of the emission point characteristics are different than stated above, the owner must notify the Department and obtain a construction permit amendment, if required.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP 392

Associated Equipment

Associated Emission Unit ID Number: EU-9-ULS
Emissions Control Equipment ID Number: CE-9-ULS
Emissions Control Equipment Description: Dust Collector

Applicable Requirements

Emission Unit vented through this Emission Point: EU-9-ULS
Emission Unit Description: Propachlor Rework Unloading Station
Raw Material/Fuel: Propachlor
Rated Capacity: 1450 lb/hr

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %[(1)]
Authority for Requirement: Iowa DNR Construction Permit 03-A-1062
567 IAC 23.3(2)"d"

[(1)] Per DNR Air Quality Policy 3-b-08, Opacity Limits, an exceedance of the indicator opacity of (10%) will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. The permit holder shall also file an "indicator opacity exceedance report" with the DNR field office and keep records as required in the policy. If the exceedance continues after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: Particulate Matter
Emission Limit(s): 0.1 gr/scf, 0.17 lb/hr[(2)]
Authority for Requirement: Iowa DNR Construction Permit 03-A-1062
567 IAC 23.3(2)"a"

Pollutant: PM_{10}
Emission Limit(s): 0.17 lb/hr[(2)]
Authority for Requirement: Iowa DNR Construction Permit 03-A-1062

[(2)] Standard is expressed as the average of three (3) runs.

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet): 18.5
Stack Diameter (inches): 12
Stack Exhaust Flow Rate (scfm): 2000
Stack Temperature (^{o}F): Ambient
Horizontal Discharge Required: Yes ☒ No ☐
Authority for Requirement: Iowa DNR Construction Permit 03-A-1062

It shall be the owner's responsibility to ensure that construction conforms with the emission point characteristics stated above. If it is determined that any of the emission point characteristics are different than stated above, the owner must notify the Department and obtain a construction permit amendment, if required.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP 393

Associated Equipment

Associated Emission Unit ID Number: EU-9-0629

Applicable Requirements

Emission Unit vented through this Emission Point: EU-9-0629
Emission Unit Description: NIPA Column Vent
Raw Material/Fuel: Crude NIPA
Rated Capacity: 2,854 lb/hr

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

There are no applicable emission limits for this emission unit at this time.

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height (feet): 57
Stack Diameter (inches): 2
Stack Exhaust Flow Rate (acfm): 0.13
Stack Temperature (^{o}F): 130
Vertical, Obstructed Discharge Required: Yes ☒ No ☐
Authority for Requirement: Iowa DNR Construction Permit 03-A-1229

It shall be the owner's responsibility to ensure that construction conforms with the emission point characteristics stated above. If it is determined that any of the emission point characteristics are different than stated above, the owner must notify the Department and obtain a construction permit amendment, if required.

Periodic Monitoring Requirements
The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

IV. General Conditions

This permit is issued under the authority of the Iowa Code subsection 455B.133(8) and in accordance with 567 Iowa Administrative Code chapter 22.

G1. Duty to Comply

1. The permittee must comply with all conditions of the Title V permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for a permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. *567 IAC 22.108(9)"a"*
2. Any compliance schedule shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based. *567 IAC 22.105 (2)"h"(3)*
3. Where an applicable requirement of the Act is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, both provisions shall be enforceable by the administrator and are incorporated into this permit. *567 IAC 22.108 (1)"b"*
4. Unless specified as either "state enforceable only" or "local program enforceable only", all terms and conditions in the permit, including provisions to limit a source's potential to emit, are enforceable by the administrator and citizens under the Act. *567 IAC 22.108 (14)*
5. It shall not be a defense for a permittee, in an enforcement action, that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. *567 IAC 22.108 (9)"b"*

G2. Permit Expiration

1. Except as provided in 567 IAC 22.104, the expiration of this permit terminates the permittee's right to operate unless a timely and complete application has been submitted for renewal. Any testing required for renewal shall be completed before the application is submitted. *567 IAC 22.116(2)*
2. To be considered timely, the owner, operator, or designated representative (where applicable) of each source required to obtain a Title V permit shall present or mail the Air Quality Bureau, Iowa Department of Natural Resources, Air Quality Bureau, 7900 Hickman Rd, Suite #1, Urbandale, Iowa 50322, two copies (three if your facility is located in Linn or Polk county) of a complete permit application, at least 6 months but not more than 18 months prior to the date of permit expiration. An additional copy must also be sent to EPA Region VII, Attention: Chief of Air Permits, 901 N. 5th St., Kansas City, KS 66101. The application must include all emission points, emission units, air pollution control equipment, and monitoring devices at the facility. All emissions generating activities, including fugitive emissions, must be included. The definition of a complete application is as indicated in 567 IAC 22.105(2). *567 IAC 22.105*

G3. Certification Requirement for Title V Related Documents

Any application, report, compliance certification or other document submitted pursuant to this permit shall contain certification by a responsible official of truth, accuracy, and completeness. All certifications shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. *567 IAC 22.107 (4)*

G4. Annual Compliance Certification

By March 31 of each year, the permittee shall submit compliance certifications for the previous calendar year. The certifications shall include descriptions of means to monitor the compliance status of all emissions sources including emissions limitations, standards, and work practices in accordance with applicable requirements. The certification for a source shall include the identification of each term or condition of the permit that is the basis of the certification; the

compliance status; whether compliance was continuous or intermittent; the method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with all applicable department rules. For sources determined not to be in compliance at the time of compliance certification, a compliance schedule shall be submitted which provides for periodic progress reports, dates for achieving activities, milestones, and an explanation of why any dates were missed and preventive or corrective measures. The compliance certification shall be submitted to the administrator, director, and the appropriate DNR Field office. *567 IAC 22.108 (15)"e"*

G5. Semi-Annual Monitoring Report

By March 31 and September 30 of each year, the permittee shall submit a report of any monitoring required under this permit for the 6 month periods of July 1 to December 31 and January 1 to June 30, respectively. All instances of deviations from permit requirements must be clearly identified in these reports, and the report must be signed by a responsible official, consistent with 567 IAC 22.107(4). The semi-annual monitoring report shall be submitted to the director and the appropriate DNR Field office. *567 IAC 22.108 (5)*

G6. Annual Fee

1. The permittee is required under subrule 567 IAC 22.106 to pay an annual fee based on the total tons of actual emissions of each regulated air pollutant. Beginning July 1, 1996, Title V operating permit fees will be paid on July 1 of each year. The fee shall be based on emissions for the previous calendar year.
2. The fee amount shall be calculated based on the first 4,000 tons of each regulated air pollutant emitted each year. The fee to be charged per ton of pollutant will be available from the department by June 1 of each year. The Responsible Official will be advised of any change in the annual fee per ton of pollutant.
3. The following forms shall be submitted annually by March 31 documenting actual emissions for the previous calendar year.
    a. Form 1.0 "Facility Identification";
    b. Form 4.0 "Emissions unit-actual operations and emissions" for each emission unit;
    c. Form 5.0 "Title V annual emissions summary/fee"; and
    d. Part 3 "Application certification."
4. The fee shall be submitted annually by July 1. The fee shall be submitted with the following forms:
    a. Form 1.0 "Facility Identification";
    b. Form 5.0 "Title V annual emissions summary/fee";
    c. Part 3 "Application certification."
5. If there are any changes to the emission calculation form, the department shall make revised forms available to the public by January 1. If revised forms are not available by January 1, forms from the previous year may be used and the year of emissions documented changed. The department shall calculate the total statewide Title V emissions for the prior calendar year and make this information available to the public no later than April 30 of each year.
6. Phase I acid rain affected units under section 404 of the Act shall not be required to pay a fee for emissions which occur during the years 1993 through 1999 inclusive.
7. The fee for a portable emissions unit or stationary source which operates both in Iowa and out of state shall be calculated only for emissions from the source while operating in Iowa.
8. Failure to pay the appropriate Title V fee represents cause for revocation of the Title V permit as indicated in 567 IAC 22.115(1)"d".

G7. Inspection of Premises, Records, Equipment, Methods and Discharges
Upon presentation of proper credentials and any other documents as may be required by law, the permittee shall allow the director or the director's authorized representative to:
1. Enter upon the permittee's premises where a Title V source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
3. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
4. Sample or monitor, at reasonable times, substances or parameters for the purpose of ensuring compliance with the permit or other applicable requirements. *567 IAC 22.108 (15)"b"*

G8. Duty to Provide Information
The permittee shall furnish to the director, within a reasonable time, any information that the director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee also shall furnish to the director copies of records required to be kept by the permit, or for information claimed to be confidential, the permittee shall furnish such records directly to the administrator of EPA along with a claim of confidentiality. *567 IAC 22.108 (9)"e"*

G9. General Maintenance and Repair Duties
The owner or operator of any air emission source or control equipment shall:
1. Maintain and operate the equipment or control equipment at all times in a manner consistent with good practice for minimizing emissions.
2. Remedy any cause of excess emissions in an expeditious manner.
3. Minimize the amount and duration of any excess emission to the maximum extent possible during periods of such emissions. These measures may include but not be limited to the use of clean fuels, production cutbacks, or the use of alternate process units or, in the case of utilities, purchase of electrical power until repairs are completed.
4. Schedule, at a minimum, routine maintenance of equipment or control equipment during periods of process shutdowns to the maximum extent possible. *567 IAC 24.2(1)*

G10. Recordkeeping Requirements for Compliance Monitoring
1. In addition to any source specific recordkeeping requirements contained in this permit, the permittee shall maintain the following compliance monitoring records, where applicable:
    a. The date, place and time of sampling or measurements
    b. The date the analyses were performed.
    c. The company or entity that performed the analyses.
    d. The analytical techniques or methods used.
    e. The results of such analyses; and
    f. The operating conditions as existing at the time of sampling or measurement.
    g. The records of quality assurance for continuous compliance monitoring systems (including but not limited to quality control activities, audits and calibration drifts.)
2. The permittee shall retain records of all required compliance monitoring data and support information for a period of at least 5 years from the date of compliance monitoring sample, measurement report or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous compliance monitoring, and copies of all reports required by the permit.

3. For any source which in its application identified reasonably anticipated alternative operating scenarios, the permittee shall:

a. Comply with all terms and conditions of this permit specific to each alternative scenario.

b. Maintain a log at the permitted facility of the scenario under which it is operating.

c. Consider the permit shield, if provided in this permit, to extend to all terms and conditions under each operating scenario. *567 IAC 22.108(4), 567 IAC 22.108(12)*

G11. Evidence used in establishing that a violation has or is occurring.

Notwithstanding any other provisions of these rules, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any provisions herein.

1. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred at a source:

a. A monitoring method approved for the source and incorporated in an operating permit pursuant to 567 Chapter 22;

b. Compliance test methods specified in 567 Chapter 25; or

c. Testing or monitoring methods approved for the source in a construction permit issued pursuant to 567 Chapter 22.

2. The following testing, monitoring or information gathering methods are presumptively credible testing, monitoring, or information gathering methods:

a. Any monitoring or testing methods provided in these rules; or

b. Other testing, monitoring, or information gathering methods that produce information comparable to that produced by any method in subrule 21.5(1) or this subrule. *567 IAC 21.5(1)-567 IAC 21.5(2)*

G12. Prevention of Accidental Release: Risk Management Plan Notification and Compliance Certification

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Act, the permittee shall notify the department of this requirement. The plan shall be filed with all appropriate authorities by the deadline specified by EPA. A certification that this risk management plan is being properly implemented shall be included in the annual compliance certification of this permit. *567 IAC 22.108(6)*

G13. Hazardous Release

The permittee must report any situation involving the actual, imminent, or probable release of a hazardous substance into the atmosphere which, because of the quantity, strength and toxicity of the substance, creates an immediate or potential danger to the public health, safety or to the environment. A verbal report shall be made to the department at (515) 281-8694 and to the local police department or the office of the sheriff of the affected county as soon as possible but not later than six hours after the discovery or onset of the condition. This verbal report must be followed up with a written report as indicated in 567 IAC 131.2(2). *567 IAC Chapter 131-State Only*

G14. Excess Emissions and Excess Emissions Reporting Requirements

1. Excess Emissions. Excess emission during a period of startup, shutdown, or cleaning of control equipment is not a violation of the emission standard if the startup, shutdown or cleaning is accomplished expeditiously and in a manner consistent with good practice for minimizing emissions. Cleaning of control equipment which does not require the shutdown of the process equipment shall be limited to one six-minute period per one-hour period. An incident of excess emission (other than an incident during startup, shutdown or cleaning of control equipment) is a

violation. If the owner or operator of a source maintains that the incident of excess emission was due to a malfunction, the owner or operator must show that the conditions which caused the incident of excess emission were not preventable by reasonable maintenance and control measures. Determination of any subsequent enforcement action will be made following review of this report. If excess emissions are occurring, either the control equipment causing the excess emission shall be repaired in an expeditious manner or the process generating the emissions shall be shutdown within a reasonable period of time. An expeditious manner is the time necessary to determine the cause of the excess emissions and to correct it within a reasonable period of time. A reasonable period of time is eight hours plus the period of time required to shut down the process without damaging the process equipment or control equipment. In the case of an electric utility, a reasonable period of time is eight hours plus the period of time until comparable generating capacity is available to meet consumer demand with the affected unit out of service, unless, the director shall, upon investigation, reasonably determine that continued operation constitutes an unjustifiable environmental hazard and issue an order that such operation is not in the public interest and require a process shutdown to commence immediately.

2. Excess Emissions Reporting

a. Oral Reporting of Excess Emissions. An incident of excess emission (other than an incident of excess emission during a period of startup, shutdown, or cleaning) shall be reported to the appropriate field office of the department within eight hours of, or at the start of the first working day following the onset of the incident. The reporting exemption for an incident of excess emission during startup, shutdown or cleaning does not relieve the owner or operator of a source with continuous monitoring equipment of the obligation of submitting reports required in 567-subrule 25.1(6). An oral report of excess emission is not required for a source with operational continuous monitoring equipment (as specified in 567-subrule 25.1(1)) if the incident of excess emission continues for less than 30 minutes and does not exceed the applicable visible emission standard by more than 10 percent opacity. The oral report may be made in person or by telephone and shall include as a minimum the following:

i. The identity of the equipment or source operation from which the excess emission originated and the associated stack or emission point.

ii. The estimated quantity of the excess emission.

iii. The time and expected duration of the excess emission.

iv. The cause of the excess emission.

v. The steps being taken to remedy the excess emission.

vi. The steps being taken to limit the excess emission in the interim period.

b. Written Reporting of Excess Emissions. A written report of an incident of excess emission shall be submitted as a follow-up to all required oral reports to the department within seven days of the onset of the upset condition, and shall include as a minimum the following:

i. The identity of the equipment or source operation point from which the excess emission originated and the associated stack or emission point.

ii. The estimated quantity of the excess emission.

iii. The time and duration of the excess emission.

iv. The cause of the excess emission.

v. The steps that were taken to remedy and to prevent the recurrence of the incident of excess emission.

vi. The steps that were taken to limit the excess emission.

vii. If the owner claims that the excess emission was due to malfunction, documentation to support this claim. *567 IAC 24.1(1)-567 IAC 24.1(4)*

3. Emergency Defense for Excess Emissions. For the purposes of this permit, an "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include non-compliance, to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation or operator error. An emergency constitutes an affirmative defense to an action brought for non-compliance with technology based limitations if it can be demonstrated through properly signed contemporaneous operating logs or other relevant evidence that:

a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;

b. The facility at the time was being properly operated;

c. During the period of the emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements of the permit; and

d. The permittee submitted notice of the emergency to the director by certified mail within two working days of the time when the emissions limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. *567 IAC 22.108(16)*

G15. Permit Deviation Reporting Requirements

A deviation is any failure to meet a term, condition or applicable requirement in the permit. Reporting requirements for deviations that result in a hazardous release or excess emissions have been indicated above (see G13 and G14). Unless more frequent deviation reporting is specified in the permit, any other deviation shall be documented in the semi-annual monitoring report and the annual compliance certification (see G4 and G5). *567 IAC 22.108(5)"b"*

G16. Notification Requirements for Sources That Become Subject to NSPS and NESHAP Regulations

During the term of this permit, the permittee must notify the department of any source that becomes subject to a standard or other requirement under 567-subrule 23.1(2) (standards of performance of new stationary sources) or section 111 of the Act; or 567-subrule 23.1(3) (emissions standards for hazardous air pollutants), 567-subrule 23.1(4) (emission standards for hazardous air pollutants for source categories) or section 112 of the Act. This notification shall be submitted in writing to the department pursuant to the notification requirements in 40 CFR Section 60.7, 40 CFR Section 61.07, and/or 40 CFR Section 63.9. *567 IAC 23.1(2), 567 IAC 23.1(3), 567 IAC 23.1(4)*

G17. Requirements for Making Changes to Emission Sources That Do Not Require Title V Permit Modification

1. Off Permit Changes to a Source. Pursuant to section 502(b)(10) of the CAAA, the permittee may make changes to this installation/facility without revising this permit if:

a. The changes are not major modifications under any provision of any program required by section 110 of the Act, modifications under section 111 of the act, modifications under section 112 of the act, or major modifications as defined in 567 IAC Chapter 22.

b. The changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or in terms of total emissions);
c. The changes are not modifications under any provisions of Title I of the Act and the changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or as total emissions);
d. The changes are not subject to any requirement under Title IV of the Act.
e. The changes comply with all applicable requirements.
f. For such a change, the permitted source provides to the department and the administrator by certified mail, at least 30 days in advance of the proposed change, a written notification, including the following, which must be attached to the permit by the source, the department and the administrator:

i. A brief description of the change within the permitted facility,
ii. The date on which the change will occur,
iii. Any change in emission as a result of that change,
iv. The pollutants emitted subject to the emissions trade
v. If the emissions trading provisions of the state implementation plan are invoked, then Title V permit requirements with which the source shall comply; a description of how the emissions increases and decreases will comply with the terms and conditions of the Title V permit.
vi. A description of the trading of emissions increases and decreases for the purpose of complying with a federally enforceable emissions cap as specified in and in compliance with the Title V permit; and
vii. Any permit term or condition no longer applicable as a result of the change. *567 IAC 22.110(1)*

2. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), record keeping, reporting, or compliance certification requirements. *567 IAC 22.110(2)*
3. Notwithstanding any other part of this rule, the director may, upon review of a notice, require a stationary source to apply for a Title V permit if the change does not meet the requirements of subrule 22.110(1). *567 IAC 22.110(3)*
4. The permit shield provided in subrule 22.108(18) shall not apply to any change made pursuant to this rule. Compliance with the permit requirements that the source will meet using the emissions trade shall be determined according to requirements of the state implementation plan authorizing the emissions trade. *567 IAC 22.110(4)*
5. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes, for changes that are provided for in this permit. *567 IAC 22.108(11)*

G18. Duty to Modify a Title V Permit

1. Administrative Amendment.

a. An administrative permit amendment is a permit revision that is required to do any of the following:

i. Correct typographical errors
ii. Identify a change in the name, address, or telephone number of any person identified in the permit, or provides a similar minor administrative change at the source;

iii. Require more frequent monitoring or reporting by the permittee; or

iv. Allow for a change in ownership or operational control of a source where the director determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new permittee has been submitted to the director.

b. The permittee may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request. The request shall be submitted to the director.

c. Administrative amendments to portions of permits containing provisions pursuant to Title IV of the Act shall be governed by regulations promulgated by the administrator under Title IV of the Act.

2. Minor Permit Modification.

a. Minor permit modification procedures may be used only for those permit modifications that do any of the following:

i. Do not violate any applicable requirements

ii. Do not involve significant changes to existing monitoring, reporting or recordkeeping requirements in the Title V permit.

iii. Do not require or change a case by case determination of an emission limitation or other standard, or increment analysis.

iv. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed in order to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include any federally enforceable emissions caps which the source would assume to avoid classification as a modification under any provision under Title I of the Act; and an alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Act.;

v. Are not modifications under any provision of Title I of the Act; and

vi. Are not required to be processed as significant modification.

b. An application for minor permit revision shall be on the minor Title V modification application form and shall include at least the following:

i. A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs.

ii. The permittee's suggested draft permit

iii. Certification by a responsible official, pursuant to 567 IAC 22.107(4), that the proposed modification meets the criteria for use of a minor permit modification procedures and a request that such procedures be used; and

iv. Completed forms to enable the department to notify the administrator and the affected states as required by 567 IAC 22.107(7).

c. The permittee may make the change proposed in its minor permit modification application immediately after it files the application. After the permittee makes this change and until the director takes any of the actions specified in 567 IAC 22.112(4) "a" to "c", the permittee must comply with both the applicable requirements governing the change and the proposed permit terms and conditions. During this time, the permittee need not comply with the existing permit terms and conditions it seeks to modify.

However, if the permittee fails to comply with its proposed permit terms and conditions during this time period, existing permit term terms and conditions it seeks to modify may subject the facility to enforcement action.

3. Significant Permit Modification. Significant Title V modification procedures shall be used for applications requesting Title V permit modifications that do not qualify as minor Title V modifications or as administrative amendments. These include but are not limited to all significant changes in monitoring permit terms, every relaxation of reporting or recordkeeping permit terms, and any change in the method of measuring compliance with existing requirements. Significant Title V modifications shall meet all requirements of 567 IAC Chapter 22, including those for applications, public participation, review by affected states, and review by the administrator, and those requirements that apply to Title V issuance and renewal. *567 IAC 22.111-567 IAC 22.113* The permittee shall submit an application for a significant permit modification not later than three months after commencing operation of the changed source unless the existing Title V permit would prohibit such construction or change in operation, in which event the operation of the changed source may not commence until the department revises the permit. *567 IAC 22.105(1)"a"(4)*

G19. Duty to Obtain Construction Permits

Unless exempted under 567 IAC 22.1(2), the permittee must not construct, install, reconstruct, or alter any equipment, control equipment or anaerobic lagoon without first obtaining a construction permit, conditional permit, or permit pursuant to 567 IAC 22.8, or permits required pursuant to 567 IAC 22.4 and 567 IAC 22.5. Such permits shall be obtained prior to the initiation of construction, installation or alteration of any portion of the stationary source. *567 IAC 22.1(1)*

G20. Asbestos

The permittee shall comply with 567 IAC 23.1(3)"a", and 567 IAC 23.2(3)"g" when conducting any renovation or demolition activities at the facility. *567 IAC 23.1(3)"a", and 567 IAC 23.2*

G21. Open Burning

The permittee is prohibited from conducting open burning, except as may be allowed by 567 IAC 23.2. *567 IAC 23.2 except 23.2(3)"h"; 567 IAC 23.2(3)"h" - State Only*

G22. Acid Rain (Title IV) Emissions Allowances

The permittee shall not exceed any allowances that it holds under Title IV of the Act or the regulations promulgated there under. Annual emissions of sulfur dioxide in excess of the number of allowances to emit sulfur dioxide held by the owners and operators of the unit or the designated representative of the owners and operators is prohibited. Exceedences of applicable emission rates are prohibited. "Held" in this context refers to both those allowances assigned to the owners and operators by USEPA, and those allowances supplementally acquired by the owners and operators. The use of any allowance prior to the year for which it was allocated is prohibited. Contravention of any other provision of the permit is prohibited. *567 IAC 22.108(7)*

G23. Stratospheric Ozone and Climate Protection (Title VI) Requirements

1. The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:

a. All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to § 82.106.

b. The placement of the required warning statement must comply with the requirements pursuant to § 82.108.

c. The form of the label bearing the required warning statement must comply with the requirements pursuant to § 82.110.

d. No person may modify, remove, or interfere with the required warning statement except as described in § 82.112.

2. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for MVACs in Subpart B:

a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to § 82.156.

b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to § 82.158.

c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to § 82.161.

d. Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with reporting and recordkeeping requirements pursuant to § 82.166. ("MVAC-like appliance" as defined at § 82.152)

e. Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to § 82.156.

f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to § 82.166.

3. If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR part 82, Subpart A, Production and Consumption Controls.

4. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant,

5. The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR part 82, Subpart G, Significant New Alternatives Policy Program. *40 CFR part 82*

G24. Permit Reopenings

1. This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. *567 IAC 22.108(9)"c"*

2. Additional applicable requirements under the Act become applicable to a major part 70 source with a remaining permit term of 3 or more years. Revisions shall be made as expeditiously as practicable, but not later than 18 months after the promulgation of such standards and regulations.

a. Reopening and revision on this ground is not required if the permit has a remaining term of less than three years;
b. Reopening and revision on this ground is not required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions have been extended pursuant to 40 CFR 70.4(b)(10)(i) or (ii) as amended to June 25, 1993.
c. Reopening and revision on this ground is not required if the additional applicable requirements are implemented in a general permit that is applicable to the source and the source receives approval for coverage under that general permit. *567 IAC 22.108(17)"a", 567 IAC 22.108(17)"b"*
3. A permit shall be reopened and revised under any of the following circumstances:
a. The department receives notice that the administrator has granted a petition for disapproval of a permit pursuant to 40 CFR 70.8(d) as amended to June 25, 1993, provided that the reopening may be stayed pending judicial review of that determination;
b. The department or the administrator determines that the Title V permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the Title V permit;
c. Additional applicable requirements under the Act become applicable to a Title V source, provided that the reopening on this ground is not required if the permit has a remaining term of less than three years, the effective date of the requirement is later than the date on which the permit is due to expire, or the additional applicable requirements are implemented in a general permit that is applicable to the source and the source receives approval for coverage under that general permit. Such a reopening shall be complete not later than 18 months after promulgation of the applicable requirement.
d. Additional requirements, including excess emissions requirements, become applicable to a Title IV affected source under the acid rain program. Upon approval by the administrator, excess emissions offset plans shall be deemed to be incorporated into the permit.
e. The department or the administrator determines that the permit must be revised or revoked to ensure compliance by the source with the applicable requirements. *567 IAC 22.114(1)*

4. Proceedings to reopen and reissue a Title V permit shall follow the procedures applicable to initial permit issuance and shall effect only those parts of the permit for which cause to reopen exists. *567 IAC 22.114(2)*

G25. Permit Shield

1. The director may expressly include in a Title V permit a provision stating that compliance with the conditions of the permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that:
a. Such applicable requirements are included and are specifically identified in the permit; or
b. The director, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the permit includes the determination or a concise summary thereof.

2. A Title V permit that does not expressly state that a permit shield exists shall be presumed not to provide such a shield.

3. A permit shield shall not alter or affect the following:

a. The provisions of Section 303 of the Act (emergency orders), including the authority of the administrator under that section;

b. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;

c. The applicable requirements of the acid rain program, consistent with Section 408(a) of the Act;

d. The ability of the department or the administrator to obtain information from the facility pursuant to Section 114 of the Act. *567 IAC 22.108 (18)*

G26. Severability

The provisions of this permit are severable and if any provision or application of any provision is found to be invalid by this department or a court of law, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected by such finding. *567 IAC 22.108 (8)*

G27. Property Rights

The permit does not convey any property rights of any sort, or any exclusive privilege. *567 IAC 22.108 (9)"d"*

G28. Transferability

This permit is not transferable from one source to another. If title to the facility or any part of it is transferred, an administrative amendment to the permit must be sought to determine transferability of the permit. *567 IAC 22.111 (1)"d"*

G29. Disclaimer

No review has been undertaken on the engineering aspects of the equipment or control equipment other than the potential of that equipment for reducing air contaminant emissions. *567 IAC 22.3(3)"c"*

G30. Notification and Reporting Requirements for Stack Tests or Monitor Certification

The permittee shall notify the department's stack test contact in writing not less than 30 days before a required test or performance evaluation of a continuous emission monitor is performed to determine compliance with an applicable requirement. For the department to consider test results a valid demonstration of compliance with applicable rules or a permit condition, such notice shall be given. Such notice shall include the time, the place, the name of the person who will conduct the test and other information as required by the department. Unless specifically waived by the department's stack test contact, a pretest meeting shall be held not later than 15 days prior to conducting the compliance demonstration. The department may accept a testing protocol in lieu of a pretest meeting. A representative of the department shall be permitted to witness the tests. Results of the tests shall be submitted in writing to the department's stack test contact in the form of a comprehensive report within six weeks of the completion of the testing. Compliance tests conducted pursuant to this permit shall be conducted with the source operating in a normal manner at its maximum continuous output as rated by the equipment manufacturer, or the rate specified by the owner as the maximum production rate at which the source shall be operated. In cases where compliance is to be demonstrated at less than the maximum continuous output as rated by the equipment manufacturer, and it is the owner's intent to limit the capacity to that rating, the owner may submit evidence to the department that the source has been physically altered so that capacity cannot be exceeded, or the department may require additional testing, continuous monitoring, reports of operating levels, or any other information deemed necessary by the department to determine whether such source is in compliance.

Stack test notifications, reports and correspondence shall be sent to:

Stack Test Review Coordinator
Iowa DNR, Air Quality Bureau
7900 Hickman Road, Suite #1
Urbandale, IA 50322
(515) 242-6001

Within Polk and Linn Counties, stack test notifications, reports and correspondence shall also be directed to the supervisor of the respective county air pollution program.
567 IAC 25.1(7)"a", 567 IAC 25.1(9)

G31. Prevention of Air Pollution Emergency Episodes

The permittee shall comply with the provisions of 567 IAC Chapter 26 in the prevention of excessive build-up of air contaminants during air pollution episodes, thereby preventing the occurrence of an emergency due to the effects of these contaminants on the health of persons.
567 IAC 26.1(1)

G32. Contacts List

The current address and phone number for reports and notifications to the EPA administrator is:

Chief of Air Permits
EPA Region 7
Air Permits and Compliance Branch
901 N. 5th Street
Kansas City, KS 66101
(913) 551-7020

The current address and phone number for reports and notifications to the department or the Director is:

Chief, Air Quality Bureau
Iowa Department of Natural Resources
7900 Hickman Road, Suite #1
Urbandale, IA 50322
(515) 242-5100

Reports or notifications to the DNR Field Offices or local programs shall be directed to the supervisor at the appropriate field office or local program. Current addresses and phone numbers are:

Field Office 1
909 West Main – Suite 4
Manchester, IA 52057
(563) 927-2640

Field Office 2
P.O. Box 1443
2300-15th St., SW
Mason City, IA 50401
(641) 424-4073

Field Office 3
1900 N. Grand Ave.
Spencer, IA 51301
(712) 262-4177

Field Office 4
1401 Sunnyside Lane
Atlantic, IA 50022
(712) 243-1934

Field Office 5
401 SW 7th Street, Suite I
Des Moines, IA 50309
(515) 725-0268

Field Office 6
1023 West Madison Street
Washington, IA 52353-1623
(319) 653-2135

Polk County Planning & Development
Air Quality Division
5885 NE 14th St.
Des Moines, IA 50313
(515) 286-3351

Linn County Public Health Dept.
Air Pollution Control Division
501 13th St., NW
Cedar Rapids, IA 52405
(319) 892-6000

V. Appendix A: 40 CFR 63, Subpart MMM, paragraphs 63.1365(c)(2) and (3), and 63.1366(b)(2) and (3)

63.1365(c)

(2) *Uncontrolled emissions.* The owner or operator referred to from paragraphs (c)(1)(i) through (v) of this section shall calculate uncontrolled emissions according to the procedures described in paragraph (c)(2)(i) or (ii) of this section, as appropriate.

(i) *Emission estimation procedures.* The owner or operator shall determine uncontrolled HAP emissions using emission measurements and/or calculations for each batch emission episode according to the engineering evaluation methodology in paragraphs (c)(2)(i)(A) through (H) of this section.

(A) Individual HAP partial pressures in multicomponent systems shall be determined in accordance with the methods specified in paragraphs (c)(2)(i)(A)(*1*) through (*3*) of this section. Chemical property data may be obtained from standard references.

(1) If the components are miscible in one another, use Raoult's law to calculate the partial pressures;

(2) If the solution is a dilute aqueous mixture, use Henry's law constants to calculate partial pressures;

(3) If Raoult's law or Henry's law are not appropriate or available, use any of the methods specified in paragraphs (c)(2)(i)(A)(*3)(i)* through *(iii)* of this section.

(i) Use experimentally obtained activity coefficients;

(ii) Use models such as the group-contribution models to predict activity coefficients;

(iii) Assume the components of the system behave independently and use the summation of all vapor pressures from the HAP as the total HAP partial pressure;

(B) *Charging or filling.* Emissions from vapor displacement due to transfer of material to a vessel shall be calculated using Equation 9 of this subpart:

$$E = \frac{(V)}{(R)(T)} \times \sum_{i=1}^{n} (P_i)(MW_i) \qquad (Eq.\ 9)$$

Where:
E = mass of HAP emitted
Pi = partial pressure of the individual HAP
V = volume of gas displaced from the vessel
R = ideal gas law constant
T = temperature of the vessel vapor space; absolute
MWi = molecular weight of the individual HAP

(C) *Purging.* Emissions from purging shall be calculated using Equation 10 of this subpart, except that for purge flow rates greater than 100 scfm, the mole fraction of HAP will be assumed to be 25 percent of the saturated value.

$$E = \sum_{i=1}^{n} P_i MW_i \times \left(\frac{(V)(t)}{(R)(T)} \right) \times \frac{P_T}{P_T - \sum_{j=1}^{m} (P_j)} \qquad (Eq.\ 10)$$

Where:
E = mass of HAP emitted
V = purge flow rate at the temperature and pressure of the vessel vapor space
R = ideal gas law constant
T = temperature of the vessel vapor space; absolute
Pi = partial pressure of the individual HAP
Pj = partial pressure of individual condensable compounds (including HAP)

PT = pressure of the vessel vapor space
MWi = molecular weight of the individual HAP
t = time of purge
n = number of HAP compounds in the emission stream
m = number of condensable compounds (including HAP) in the emission stream.

(D) *Heating.* Emissions caused by heating the contents of a vessel to a temperature less than the boiling point shall be calculated using the procedures in either paragraph (c)(2)(i)(D)(*1*), (*2*), or (*4*) of this section, as appropriate. If the contents of a vessel are heated to the boiling point, emissions while boiling are assumed to be zero if the owner or operator is complying with the provisions in paragraph (d)(2)(i)(C)(*3*) of this section.

(1) If the final temperature to which the vessel contents are heated is lower than 50 K below the boiling point of the HAP in the vessel, then emissions shall be calculated using Equations 11 through 14 of this subpart.

(i) The mass of HAP emitted per episode shall be calculated using Equation 11 of this subpart:

$$E = \frac{\frac{\sum_{i=1}^{n}(P_i)_{T1}}{Pa_1} + \frac{\sum_{i=1}^{n}(P_i)_{T2}}{Pa_2}}{2} \times \Delta\eta \times MW_{HAP} \qquad (Eq.\ 11)$$

Where:
E = mass of HAP vapor displaced from the vessel being heated
(Pi)Tn = partial pressure of each HAP in the vessel headspace at initial (n = 1) and final (n = 2) temperatures
Pa1 = initial noncondensable gas pressure in the vessel, as calculated using Equation 13 of this subpart
Pa2 = final noncondensable gas pressure in the vessel, as calculated using Equation 13 of this subpart
Δ&EEgr; = number of moles of noncondensable gas displaced, as calculated using Equation 12 of this subpart
MWHAP = The average molecular weight of HAP present in the vessel, as calculated using Equation 14 of this subpart:
n = number of HAP compounds in the displaced vapor

(ii) The moles of noncondensable gas displaced shall be calculated using Equation 12 of this subpart:

$$\Delta\eta = \frac{V}{R}\left[\left(\frac{Pa_1}{T_1}\right) - \left(\frac{Pa_2}{T_2}\right)\right] \qquad (Eq.\ 12)$$

where:
Δ&EEgr; = number of moles of noncondensable gas displaced
V = volume of free space in the vessel
R = ideal gas law constant
Pa1 = initial noncondensable gas pressure in the vessel, as calculated using Equation 13 of this subpart
Pa2 = final noncondensable gas pressure in the vessel, as calculated using Equation 13 of this subpart
T1 = initial temperature of vessel contents, absolute
T2 = final temperature of vessel contents, absolute

(iii) The initial and final pressure of the noncondensable gas in the vessel shall be calculated according to Equation 13 of this subpart:

$$Pa_n = Pa_{atm} - \sum_{j=1}^{m} (P_j)_{Tn} \qquad \text{(Eq. 13)}$$

Where:
Pan = partial pressure of noncondensable gas in the vessel headspace at initial (n = 1) and final (n = 2) temperatures
Patm = atmospheric pressure
(Pj)Tn = partial pressure of each condensable volatile organic compound (including HAP) in the vessel headspace at the initial temperature (n = 1) and final (n = 2) temperature

(*iv*) The average molecular weight of HAP in the displaced gas shall be calculated using Equation 14 of this subpart:

$$MW_{HAP} = \sum_{i=1}^{n} \frac{\left((P_i)_{T_1} + (P_i)_{T_2}\right) MW_i}{\sum_{i=1}^{n} \left((P_i)_{T_1} + (P_i)_{T_2}\right)} \qquad \text{(Eq. 14)}$$

Where:
MWHAP = average molecular weight of HAP in the displaced gas
(Pi)Tn = partial pressure of each HAP in the vessel headspace at the initial (T1) and final (T2) temperatures
MWi = molecular weight of each HAP
n = number of HAP compounds in the emission stream

(*2*) If the vessel contents are heated to a temperature greater than 50 K below the boiling point, then emissions from the heating of a vessel shall be calculated as the sum of the emissions calculated in accordance with paragraphs (c)(2)(i)(D)(*2*)(*i*) and (*ii*) of this section.

(*i*) For the interval from the initial temperature to the temperature 50 K below the boiling point, emissions shall be calculated using Equation 11 of this subpart, where T2 is the temperature 50 K below the boiling point.

(*ii*) For the interval from the temperature 50 K below the boiling point to the final temperature, emissions shall be calculated as the summation of emissions for each 5 K increment, where the emission for each increment shall be calculated using Equation 11 of this subpart. If the final temperature of the heatup is lower than 5 K below the boiling point, the final temperature for the last increment shall be the final temperature of the heatup, even if the last increment is less than 5 K. If the final temperature of the heatup is higher than 5 K below the boiling point, the final temperature for the last increment shall be the temperature 5 K below the boiling point, even if the last increment is less than 5 K.

(*3*) While boiling, the vessel must be operated with a properly operated process condenser. An initial demonstration that a process condenser is properly operated is required for vessels that operate process condensers without secondary condensers that are air pollution control devices. The owner or operator must either measure the condenser exhaust gas temperature and show it is less than the boiling point of the substance(s) in the vessel, or perform a material balance around the vessel and condenser to show that at least 99 percent of the material vaporized while boiling is condensed. Uncontrolled emissions are assumed to be zero under these conditions. The initial demonstration shall be conducted for all appropriate operating scenarios and documented in the Notification of Compliance Status report as specified in § 63.1368(f).

(*4*)

(*i*) As an alternative to the procedures described in paragraphs (c)(2)(i)(D)(1) and (*2*) of this section, emissions caused by heating a vessel to any temperature less than the boiling point may be calculated using Equation 15 of this subpart.

$$E = MW_{HAP} \times \left(N_{avg} \times \ln \left(\frac{P_T - \sum_{i=1}^{m} (P_{i,1})}{P_T - \sum_{i=1}^{m} (P_{i,2})} \right) - (n_{HAP,2} - n_{HAP,1}) \right) \quad (Eq.\ 15)$$

Where:
E = mass of HAP vapor displaced from the vessel being heated
Navg = average gas space molar volume during the heating process, as calculated using Equation 16 of this subpart
PT = total pressure in the vessel
Pi,1 = partial pressure of the individual HAP compounds at T1
Pi,2 = partial pressure of the individual HAP compounds at T2
MWHAP = average molecular weight of the HAP compounds, as calculated using Equation 14 of this subpart
nHAP,1 = number of moles of total HAP in the vessel headspace at T1
nHAP,2 = number of moles of total HAP in the vessel headspace at T2
m = number of HAP compounds in the emission stream.

(*ii*) The average gas space molar volume during the heating process is calculated using Equation 16 of this subpart.

$$N_{avg} = \frac{VP_T}{2R} \left(\frac{1}{T_1} + \frac{1}{T_2} \right) \quad (Eq.\ 16)$$

Where:
Navg = average gas space molar volume during the heating process
V = volume of free space in vessel
PT = total pressure in the vessel
R = ideal gas law constant
T1 = initial temperature of the vessel contents, absolute
T2 = final temperature of the vessel contents, absolute

(*iii*) The difference in the number of moles of total HAP in the vessel headspace between the initial and final temperatures is calculated using Equation 17 of this subpart.

$$(n_{HAP,2} - n_{HAP,1}) = \frac{V}{(R)(T_2)} \sum_{i=1}^{n} P_{i,2} - \frac{V}{(R)(T_1)} \sum_{i=1}^{n} P_{i,1} \quad (Eq.\ 17)$$

Where:
nHAP,2 = number of moles of total HAP in the vessel headspace at T2
nHAP,1 = number of moles of total HAP in the vessel headspace at T1
V = volume of free space in vessel
R = ideal gas law constant
T1 = initial temperature of the vessel contents, absolute
T2 = final temperature of the vessel contents, absolute
Pi,1 = partial pressure of the individual HAP compounds at T1
Pi,2 = partial pressure of the individual HAP compounds at T2
n = number of HAP compounds in the emission stream.

(E) *Depressurization.* Emissions from depressurization shall be calculated using the procedures in paragraphs (c)(2)(i)(E)(*1*) through (*5*) of this section. Alternatively, the owner or operator may elect to calculate emissions from depressurization using the procedures in paragraph (c)(2)(i)(E)(*6*) of this section.

(*1*) The moles of HAP vapor initially in the vessel are calculated using Equation 18 of this subpart:

$$n_{HAP} = \frac{V}{R\,T} \times \sum_{i=1}^{n} (P_i) \qquad \text{(Eq. 18)}$$

Where:
nHAP=moles of HAP vapor in the vessel
Pi=partial pressure of each HAP in the vessel vapor space
V=free volume in the vessel being depressurized
R=ideal gas law constant
T=absolute temperature in vessel
n=number of HAP compounds in the emission stream

(*2*) The initial and final moles of noncondensable gas present in the vessel are calculated using Equations 19 and 20 of this subpart:

$$n_1 = \frac{VP_{nc_1}}{RT} \qquad \text{(Eq. 19)}$$

$$n_2 = \frac{VP_{nc_2}}{RT} \qquad \text{(Eq. 20)}$$

Where:
n1=initial number of moles of noncondensable gas in the vessel
n2=final number of moles of noncondensable gas in the vessel
V=free volume in the vessel being depressurized
Pnc1=initial partial pressure of the noncondensable gas, as calculated using Equation 21 of this subpart
Pnc2=final partial pressure of the noncondensable gas, as calculated using Equation 22 of this subpart
R=ideal gas law constant
T=temperature, absolute

(*3*) The initial and final partial pressures of the noncondensable gas in the vessel are determined using Equations 21 and 22 of this subpart.

$$P_{nc1} = P_1 - \sum_{j=1}^{m} (P_j *)(x_j) \qquad (Eq.\ 21)$$

$$P_{nc2} = P_2 - \sum_{j=1}^{m} (P_j *)(x_j) \qquad (Eq.\ 22)$$

Where:
Pnc1 = initial partial pressure of the noncondensable gas
Pnc2 = final partial pressure of the noncondensable gas
P1 = initial vessel pressure
P2 = final vessel pressure
Pj* = vapor pressure of each condensable compound (including HAP) in the emission stream
xj = mole fraction of each condensable compound (including HAP) in the liquid phase
m = number of condensable compounds (including HAP) in the emission stream.

(*4*) The moles of HAP emitted during the depressurization are calculated by taking an approximation of the average ratio of moles of HAP to moles of noncondensable and multiplying by the total moles of noncondensables released during the depressurization, using Equation 23 of this subpart:

$$n_{HAP,e} = \frac{\left(\frac{n_{HAP,1}}{n_1} + \frac{n_{HAP,2}}{n_2}\right)}{2}\left[n_1 - n_2\right] \qquad (Eq.\ 23)$$

Where:
nHAP,e = moles of HAP emitted
nHAP,1 = moles of HAP vapor in vessel at the initial pressure, as calculated using Equation 18 of this subpart
nHAP,2 = moles of HAP vapor in vessel at the final pressure, as calculated using Equation 18 of this subpart
n1 = initial number of moles of noncondensable gas in the vessel, as calculated using Equation 19 of this subpart
n2 = final number of moles of noncondensable gas in the vessel, as calculated using Equation 19 of this subpart.

(*5*) Use Equation 24 of this subpart to calculate the mass of HAP emitted:

$$E = n_{HAP,e} * MW_{HAP} \qquad (Eq.\ 24)$$

Where:
E=mass of HAP emitted
nHAP,e=moles of HAP emitted, as calculated using Equation 23 of this subpart
MWHAP=average molecular weight of the HAP as calculated using Equation 14 of this subpart

(*6*) As an alternative to the procedures in paragraphs (c)(2)(i)(E)(1) through (5) of this section, emissions from depressurization may be calculated using Equation 25 of this subpart:

$$E = \frac{V}{(R)(T)} \times \ln\left(\frac{P_1 - \sum_{j=1}^{m}(P_j)}{P_2 - \sum_{j=1}^{m}(P_j)}\right) \times \sum_{i=1}^{n}(P_i)\ (MW_i) \qquad (Eq.\ 25)$$

where:
V=free volume in vessel being depressurized
R=ideal gas law constant
T=temperature of the vessel, absolute
P1=initial pressure in the vessel
P2=final pressure in the vessel
Pi=partial pressure of the individual HAP compounds
Pj=partial pressure of individual condensable VOC compounds (including HAP)
MWi=molecular weight of the individual HAP compounds
n=number of HAP compounds in the emission stream
m=number of condensable VOC compounds (including HAP) in the emission stream

(F) *Vacuum systems*. Calculate emissions from vacuum systems using Equation 26 of this subpart:

$$E = \frac{(MW_{HAP})(La)(t)}{MW_{nc}}\left(\frac{\sum_{i=1}^{n} P_i}{P_T - \sum_{j=1}^{m} P_j}\right) \qquad (Eq.\ 26)$$

Where:
E = mass of HAP emitted
PT = absolute pressure of receiving vessel or ejector outlet conditions, if there is no receiver
Pi = partial pressure of individual HAP at the receiver temperature or the ejector outlet conditions
Pj = partial pressure of individual condensable compounds (including HAP) at the receiver temperature or the ejector outlet conditions
La = total air leak rate in the system, mass/time
MWnc = molecular weight of noncondensable gas
t = time of vacuum operation
MWHAP = average molecular weight of HAP in the emission stream, as calculated using Equation 14 of this subpart, with HAP partial pressures calculated at the temperature of the receiver or ejector outlet, as appropriate
n = number of HAP components in the emission stream
m = number of condensable compounds (including HAP) in the emission stream.

(G) *Gas evolution.* Emissions from gas evolution shall be calculated using Equation 10 of this subpart with V calculated using Equation 27 of this subpart:

$$V = \frac{(W_g)(R)(T)}{(P_T)(MW_g)} \qquad (Eq.\ 27)$$

Where:
V=volumetric flow rate of gas evolution
Wg=mass flow rate of gas evolution
R=ideal gas law constant
T=temperature at the exit, absolute
PT=vessel pressure
MWg=molecular weight of the evolved gas

(H) *Air drying.* Use Equation 28 of this subpart to calculate emissions from air drying:

$$E = B \times \left(\frac{PS_1}{100 - PS_1} - \frac{PS_2}{100 - PS_2}\right) \qquad (Eq.\ 28)$$

Where:
E=mass of HAP emitted
B=mass of dry solids
PS1=HAP in material entering dryer, weight percent
PS2=HAP in material exiting dryer, weight percent.

(ii) *Engineering assessments*. The owner or operator shall conduct an engineering assessment to determine uncontrolled HAP emissions for each emission episode that is not due to vapor displacement, purging, heating, depressurization, vacuum systems, gas evolution, or air drying. For a given emission episode caused by any of these seven types of activities, the owner or operator also may request approval to determine uncontrolled HAP emissions based on an engineering assessment. Except as specified in paragraph (c)(2)(ii)(A) of this section, all data, assumptions, and procedures used in the engineering assessment shall be documented in the Precompliance plan in accordance with § 63.1367(b). An

engineering assessment includes, but is not limited to, the information and procedures described in paragraphs (c)(2)(ii)(A) through (D) of this section.

(A) Test results, provided the tests are representative of current operating practices at the process unit. For process vents without variable emission stream characteristics, an engineering assessment based on the results of a previous test may be submitted in the Notification of Compliance Status report instead of the Precompliance plan. Results from a previous test of process vents with variable emission stream characteristics will be acceptable in place of values estimated using the procedures specified in paragraph (c)(2)(i) of this section if the test data show a greater than 20 percent discrepancy between the test value and the estimated value, and the results of the engineering assessment shall be included in the Notification of Compliance Status report. For other process vents with variable emission stream characteristics, engineering assessments based on the results of a previous test must be submitted in the Precompliance plan. For engineering assessments based on new tests, the owner or operator must comply with the test notification requirements in § 63.1368(m), and the results of the engineering assessment may be submitted in the Notification of Compliance Status report rather than the Precompliance plan.

(B) Bench-scale or pilot-scale test data representative of the process under representative operating conditions.

(C) Maximum flow rate, HAP emission rate, concentration, or other relevant parameter specified or implied within a permit limit applicable to the process vent.

(D) Design analysis based on accepted chemical engineering principles, measurable process parameters, or physical or chemical laws or properties. Examples of analytical methods include, but are not limited to:

(*1*) Use of material balances based on process stoichiometry to estimate maximum organic HAP concentrations;

(*2*) Estimation of maximum flow rate based on physical equipment design such as pump or blower capacities; and

(*3*) Estimation of HAP concentrations based on saturation conditions.

(3) *Controlled emissions.* Except for condensers, the owner or operator shall determine controlled emissions using the procedures in either paragraph (c)(3)(i) or (ii) of this section, as applicable. For condensers, controlled emissions shall be calculated using the emission estimation equations described in paragraph (c)(3)(iii) of this section. The owner or operator is not required to calculate controlled emissions from devices described in paragraph (a)(4) of this section or from flares for which compliance is demonstrated in accordance with paragraph (a)(3) of this section. If the owner or operator is complying with an outlet concentration standard and the control device uses supplemental gases, the outlet concentrations shall be corrected in accordance with the procedures described in paragraph (a)(7) of this section.

(i) *Small control devices, except condensers.* Controlled emissions for each process vent that is controlled using a small control device, except for a condenser, shall be determined by using the design evaluation described in paragraph (c)(3)(i)(A) of this section, or by conducting a performance test in accordance with paragraph (c)(3)(ii) of this section.

(A) *Design evaluation.* The design evaluation shall include documentation demonstrating that the control device being used achieves the required control efficiency under absolute or hypothetical peak-case conditions, as determined from the emission profile described in paragraph (b)(11)(iii) of this section. The control efficiency determined from this design evaluation shall be applied to uncontrolled emissions to estimate controlled emissions. The documentation must be conducted in accordance with the provisions in paragraph (a)(1) of this section. The design evaluation shall also include the value(s) and basis for the parameter(s) monitored under § 63.1366.

(B) Whenever a small control device becomes a large control device, the owner or operator must comply with the provisions in paragraph (c)(3)(ii) of this section and submit the test report in the next Periodic report.

(ii) *Large control devices, except condensers.* Controlled emissions for each process vent that is controlled using a large control device, except for a condenser, shall be determined by applying the control efficiency of the large control device to the estimated uncontrolled emissions. The control efficiency shall be determined by conducting a performance test on the control device as described in paragraphs (c)(3)(ii)(A) through (C) of this section, or by using the results of a previous performance test as described in paragraph (c)(3)(ii)(D) of this section. If the control device is intended to control only HCl and chlorine, the owner or operator may assume the control efficiency of organic HAP is 0 percent. If the control device is intended to

control only organic HAP, the owner or operator may assume the control efficiency for HCl and chlorine is 0 percent.

(A) Performance test measurements shall be conducted at both the inlet and outlet of the control device for TOC, total organic HAP, and total HCl and chlorine, as applicable, using the test methods and procedures described in paragraph (b) of this section. Concentrations shall be calculated from the data obtained through emission testing according to the procedures in paragraph (a)(2) of this section.

(B) Performance testing shall be conducted under absolute or hypothetical peak-case conditions, as defined in paragraphs (b)(11)(i) and (ii) of this section.

(C) The owner or operator may elect to conduct more than one performance test on the control device for the purpose of establishing more than one operating condition at which the control device achieves the required control efficiency.

(D) The owner or operator is not required to conduct a performance test for any control device for which a previous performance test was conducted, provided the test was conducted using the same procedures specified in paragraphs (b)(1) through (11) of this section over conditions typical of the absolute or hypothetical peak-case, as defined in paragraphs (b)(11)(i) and (ii) of this section. The results of the previous performance test shall be used to demonstrate compliance.

(iii) *Condensers*. The owner or operator using a condenser as a control device shall determine controlled emissions for each batch emission episode according to the engineering methodology in paragraphs (c)(3)(iii)(A) through (G) of this section. The owner or operator must establish the maximum outlet gas temperature and calculate the controlled emissions using this temperature in the applicable equation. Individual HAP partial pressures shall be calculated as specified in paragraph (c)(2)(i) of this section.

(A) Emissions from vapor displacement due to transfer of material to a vessel shall be calculated using Equation 9 of this subpart with T set equal to the temperature of the receiver and the HAP partial pressures determined at the temperature of the receiver.

(B) Emissions from purging shall be calculated using Equation 10 of this subpart with T set equal to the temperature of the receiver and the HAP partial pressures determined at the temperature of the receiver.

(C) Emissions from heating shall be calculated using Equation 29 of this subpart. In Equation 29 of this subpart, $\Delta\eta$ is equal to the number of moles of noncondensable displaced from the vessel, as calculated using Equation 12 of this subpart. In Equation 29 of this subpart, the HAP average molecular weight shall be calculated using Equation 14 with the HAP partial pressures determined at the temperature of the receiver.

$$E = \Delta\eta \times \frac{\sum_{i=1}^{n} P_i}{P_T - \sum_{j=1}^{m} P_j} \times MW_{HAP} \qquad \text{(Eq. 29)}$$

Where:

E=mass of HAP emitted

Δη=moles of noncondensable gas displaced

PT=pressure in the receiver

Pi=partial pressure of the individual HAP at the receiver temperature

Pj=partial pressure of the individual condensable VOC (including HAP) at the receiver temperature

n=number of HAP compounds in the emission stream

MWHAP=the average molecular weight of HAP in vapor exiting the receiver, as calculated using Equation 14 of this subpart

m=number of condensable VOC (including HAP) in the emission stream

(D)

(*1*) Emissions from depressurization shall be calculated using Equation 30 of this subpart.

$$E = (V_{nc1} - V_{nc2}) \times \frac{\sum_{i=1}^{n}(P_i)}{P_T - \sum_{j=1}^{m}(P_j)} \times \frac{P_T}{RT} \times MW_{HAP} \qquad \text{(Eq. 30)}$$

Where:
E=mass of HAP vapor emitted
Vnc1=initial volume of noncondensable in the vessel, corrected to the final pressure, as calculated using Equation 31 of this subpart
Vnc2=final volume of noncondensable in the vessel, as calculated using Equation 32 of this subpart
Pi=partial pressure of each individual HAP at the receiver temperature
Pj=partial pressure of each condensable VOC (including HAP) at the receiver temperature
PT=receiver pressure
T=temperature of the receiver, absolute
R=ideal gas law constant
MWHAP=the average molecular weight of HAP calculated using Equation 14 of this subpart with partial pressures determined at the receiver temperature
n=number of HAP compounds in the emission stream
m=number of condensable VOC (including HAP) in the emission stream

(2) The initial and final volumes of noncondensable gas present in the vessel, adjusted to the pressure of the receiver, are calculated using Equations 31 and 32 of this subpart.

$$V_{nc1} = \frac{VP_{nc_1}}{P_T} \qquad \text{(Eq. 31)}$$

$$V_{nc2} = \frac{VP_{nc_2}}{P_T} \qquad \text{(Eq. 32)}$$

Where:
Vnc1=initial volume of noncondensable gas in the vessel
Vnc2=final volume of noncondensable gas in the vessel
V=free volume in the vessel being depressurized
Pnc1=initial partial pressure of the noncondensable gas, as calculated using Equation 33 of this subpart
Pnc2=final partial pressure of the noncondensable gas, as calculated using Equation 34 of this subpart
PT=pressure of the receiver

(3) Initial and final partial pressures of the noncondensable gas in the vessel are determined using Equations 33 and 34 of this subpart.

$$P_{nc1} = P_1 - \sum_{j=1}^{m} P_j \qquad \text{(Eq. 33)}$$

$$P_{nc2} = P_2 - \sum_{j=1}^{m} P_j \qquad \text{(Eq. 34)}$$

Where:
Pnc1=initial partial pressure of the noncondensable gas in the vessel
Pnc2=final partial pressure of the noncondensable gas in the vessel
P1=initial vessel pressure
P2=final vessel pressure
Pj=partial pressure of each condensable VOC (including HAP) in the vessel
m=number of condensable VOC (including HAP) in the emission stream

(E) Emissions from vacuum systems shall be calculated using Equation 26 of this subpart.
(F) Emissions from gas evolution shall be calculated using Equation 8 with V calculated using Equation 27 of this subpart, T set equal to the receiver temperature, and the HAP partial pressures determined at the receiver temperature. The term for time, t, in Equation 10 of this subpart is not needed for the purposes of this calculation.
(G) Emissions from air drying shall be calculated using Equation 9 of this subpart with V equal to the air flow rate and Pi determined at the receiver temperature.

63.1366(b)

(2) Averaging periods. Averaging periods for parametric monitoring levels shall be established according to paragraphs (b)(2)(i) through (iii) of this section.

(i) Except as provided in paragraph (b)(2)(iii) of this section, a daily (24-hour) or block average shall be calculated as the average of all values for a monitored parameter level set according to the procedures in (b)(3)(iii) of this section recorded during the operating day or block.

(ii) The operating day or block shall be defined in the Notification of Compliance Status report. The operating day may be from midnight to midnight or another continuous 24-hour period. The operating block may be used as an averaging period only for vents from batch operations, and is limited to a period of time that is, at a maximum, equal to the time from the beginning to end of a series of consecutive batch operations.

(iii) Monitoring values taken during periods in which the control devices are not controlling HAP from an emission stream subject to the standards in § 63.1362, as indicated by periods of no flow or periods when only streams that are not subject to the standards in § 63.1362 are controlled, shall not be considered in the averages. Where flow to the device could be intermittent, the owner or operator shall install, calibrate and operate a flow indicator at the inlet or outlet of the control device to identify periods of no flow.

(3) Procedures for setting parameter levels for control devices used to control emissions from process vents.

(i) Small control devices. Except as provided in paragraph (b)(1)(i) of this section, for devices controlling less than 10 tons/yr of HAP for which a performance test is not required, the parameteric levels shall be set based on the design evaluation required in § 63.1365(c)(3)(i)(A). If a performance test is conducted, the monitoring parameter level shall be established according to the procedures in paragraph (b)(3)(ii) of this section.

(ii) Large control devices. For devices controlling greater than or equal to 10 tons/yr of HAP for which a performance test is required, the parameter level must be established as follows:

(A) If the operating parameter level to be established is a maximum or minimum, it must be based on the average of the average values from each of the three test runs.

(B) The owner or operator may establish the parametric monitoring level(s) based on the performance test supplemented by engineering assessments and/or manufacturer's recommendations. Performance testing is not required to be conducted over the entire range of expected parameter values. The rationale for the specific level for each parameter, including any data and calculations used to develop the level(s) and a description of why the level indicates proper operation of the control device shall be provided in the Precompliance plan. Determination of the parametric monitoring level using these procedures is subject to review and approval by the Administrator.

(iii) Parameter levels for control devices controlling batch process vents. For devices controlling batch process vents alone or in combination with other streams, the level(s) shall be established in accordance with paragraph (b)(3)(iii)(A) or (B) of this section.

(A) A single level for the batch process(es) shall be calculated from the initial compliance demonstration.

(B) The owner or operator may establish separate levels for each batch emission episode or combination of emission episodes selected to be controlled. If separate monitoring levels are established, the owner or operator must provide a record indicating at what point in the daily schedule or log of processes required to be recorded per the requirements of § 63.1367(b)(7), the parameter being monitored changes levels and must record at least one reading of the new parameter level, even if the duration of monitoring for the new parameter level is less than 15 minutes.

VI. Appendix B: Equipment leak standards from 40 CFR 63, Subparts MMM and H

63.1363 Standards for equipment leaks.

(a) *General equipment leak requirements*

(1) The provisions of this section apply to "equipment" as defined in § 63.1361. The provisions of this section also apply to any closed-vent systems and control devices required by this section.

(2) *Consistency with other regulations.* After the compliance date for a process, equipment subject to both this section and either of the following will be required to comply only with the provisions of this subpart:

(i) 40 CFR part 60.

(ii) 40 CFR part 61.

(3) [Reserved]

(4) The provisions in § 63.1(a)(3) of subpart A of this part do not alter the provisions in paragraph (a)(2) of this section.

(5) Lines and equipment not containing process fluids are not subject to the provisions of this section. Utilities, and other nonprocess lines, such as heating and cooling systems which do not combine their materials with those in the processes they serve, are not considered to be part of a process.

(6) The provisions of this section do not apply to bench-scale processes, regardless of whether the processes are located at the same plant site as a process subject to the provisions of this subpart MMM.

(7) Each piece of equipment to which this section applies shall be identified such that it can be distinguished readily from equipment that is not subject to this section. Identification of the equipment does not require physical tagging of the equipment. For example, the equipment may be identified on a plant site plan, in log entries, or by designation of process boundaries by some form of weatherproof identification. If changes are made to the affected source subject to the leak detection requirements, equipment identification for each type of component shall be updated, if needed, within 15 calendar days of the end of each monitoring period for that component.

(8) Equipment that is in vacuum service is excluded from the requirements of this section.

(9) Equipment that is in organic HAP service, but is in such service less than 300 hours per calendar year, is excluded from the requirements of this section if it is identified as required in paragraph (g)(9) of this section.

(10) When each leak is detected by visual, audible, or olfactory means, or by monitoring as described in § 63.180(b) or (c) of subpart H of this part, the following requirements apply:

(i) A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.

(ii) The identification on a valve in light liquid or gas/vapor service may be removed after it has been monitored as specified in paragraph (e)(7)(iii) of this section, and no leak has been detected during the follow-up monitoring. If an owner or operator elects to comply with § 63.174(c)(1)(i), the identification on a connector may be removed after it has been monitored as specified in § 63.174(c)(1)(i) and no leak is detected during that monitoring.

(iii) The identification on equipment, except as specified in paragraph (a)(10)(ii) of this section, may be removed after it has been repaired.

(b) *References.* The owner or operator shall comply with the provisions of subpart H of this part as specified in paragraphs (b)(1) through (3) of this section. When the term "process unit" is used in subpart H of this part, it shall mean any group of processes for the purposes of this subpart. Groups of processes as used in this subpart may be any individual process or combination of processes.

(1) *[This paragraph lists the sections of subpart H that shall not apply. Since only the applicable sections of subpart H have been included in this document, this list has been dropped.]*

(2) The owner or operator shall comply with §§ 63.164, 63.165, 63.166, 63.169, 63.177, and 63.179 of subpart H of this part in their entirety, except that when these sections reference other sections of subpart H of this part, the owner or operator shall comply with the revised sections as specified in paragraphs (b)(1) and (3) of this section. Section 63.164 of subpart H of this part applies to compressors. Section 63.165 of subpart H of this part applies to pressure relief devices in gas/vapor service. Section 63.166 of subpart H of this part applies to sampling connection systems. Section 63.169 of subpart H of this part applies to: pumps, valves, connectors, and agitators in heavy liquid service; instrumentation systems; and pressure relief devices in liquid service.

Section 63.177 of subpart H of this subpart applies to general alternative means of emission limitation. Section 63.179 of subpart H of this part applies to alternative means of emission limitation for enclosed-vented process units.

(3) *[The applicable sections of 40 CFR 63 subpart H have been inserted below. Changes specified by 63.1363(b)(3) have been made.]*

§ 63.164 Standards: Compressors.

(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of process fluid to the atmosphere, except as provided in § 63.162(b) of this subpart and paragraphs (h) and (i) of this section.
(b) Each compressor seal system as required in paragraph (a) of this section shall be:
(1) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or
(2) Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system or connected by a closed-vent system to a control device that complies with the requirements of § 63.172 of this subpart; or
(3) Equipped with a closed-loop system that purges the barrier fluid directly into a process stream.
(c) The barrier fluid shall not be in light liquid service.
(d) Each barrier fluid system as described in paragraphs (a) through (c) of this section shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.
(e)
(1) Each sensor as required in paragraph (d) of this section shall be observed daily or shall be equipped with an alarm unless the compressor is located within the boundary of an unmanned plant site.
(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.
(f) If the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined under paragraph (e)(2) of this section, a leak is detected.
(g)
(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 63.171 of this subpart.
(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.
(h) A compressor is exempt from the requirements of paragraphs (a) through (g) of this section if it is equipped with a closed-vent system to capture and transport leakage from the compressor drive shaft seal back to a process or a fuel gas system or to a control device that complies with the requirements of § 63.172 of this subpart.
(i) Any compressor that is designated, as described in § 63.181(b)(2)(ii) of this subpart, to operate with an instrument reading of less than 500 parts per million above background, is exempt from the requirements of paragraphs (a) through (h) of this section if the compressor:
(1) Is demonstrated to be operating with an instrument reading of less than 500 parts per million above background, as measured by the method specified in § 63.180(c) of this subpart; and
(2) Is tested for compliance with paragraph (i)(1) of this section initially upon designation, annually, and at other times requested by the Administrator.

§ 63.165 Standards: Pressure relief devices in gas/vapor service.

(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with an instrument reading of less than 500 parts per million above background except as provided in paragraph (b) of this section, as measured by the method specified in § 63.180(c) of this subpart.
(b)
(1) After each pressure release, the pressure relief device shall be returned to a condition indicated by an instrument reading of less than 500 parts per million above background, as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in § 63.171 of this subpart.
(2) No later than 5 calendar days after the pressure release and being returned to organic HAP service, the pressure relief device shall be monitored to confirm the condition indicated by an instrument reading of less than 500 parts per million above background, as measured by the method specified in § 63.180(c) of this subpart.
(c) Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed-vent system capable of capturing and transporting leakage from the pressure relief device to a control device as described in § 63.172 of this subpart is exempt from the requirements of paragraphs (a) and (b) of this section.

(d)

(1) Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of paragraphs (a) and (b) of this section, provided the owner or operator complies with the requirements in paragraph (d)(2) of this section.

(2) After each pressure release, a rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in § 63.171 of this subpart.

§ 63.166 Standards: Sampling connection systems.

(a) Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system, except as provided in § 63.162(b) of this subpart. Gases displaced during filling of the sample container are not required to be collected or captured.

(b) Each closed-purge, closed-loop, or closed-vent system as required in paragraph (a) of this section shall:

(1) Return the purged process fluid directly to the process line; or

(2) Collect and recycle the purged process fluid to a process; or

(3) Be designed and operated to capture and transport the purged process fluid to a control device that complies with the requirements of § 63.172 of this subpart; or

(4) Collect, store, and transport the purged process fluid to a system or facility identified in paragraph (b)(4)(i), (ii), or (iii) of this section.

(i) A waste management unit as defined in § 63.111 of subpart G of this part, if the waste management unit is subject to, and operated in compliance with the provisions of subpart G of this part applicable to group 1 wastewater streams. If the purged process fluid does not contain any organic HAP listed in Table 9 of subpart G of part 63, the waste management unit need not be subject to, and operated in compliance with the requirements of 40 CFR part 63, subpart G applicable to group 1 wastewater streams provided the facility has an NPDES permit or sends the wastewater to an NPDES permitted facility.

(ii) A treatment, storage, or disposal facility subject to regulation under 40 CFR part 262, 264, 265, or 266; or

(iii) A facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR part 261.

(c) In-situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (a) and (b) of this section.

§ 63.169 Standards: Pumps, valves, connectors, and agitators in heavy liquid service; instrumentation systems; and pressure relief devices in liquid service.

(a) Pumps, valves, connectors, and agitators in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and instrumentation systems shall be monitored within 5 calendar days by the method specified in § 63.180(b) of this subpart if evidence of a potential leak to the atmosphere is found by visual, audible, olfactory, or any other detection method. If such a potential leak is repaired as required in paragraphs (c) and (d) of this section, it is not necessary to monitor the system for leaks by the method specified in § 63.180(b) of this subpart.

(b) If an instrument reading of 10,000 parts per million or greater for agitators, 5,000 parts per million or greater for pumps handling polymerizing monomers, 2,000 parts per million or greater for all other pumps (including pumps in food/medical service), or 500 parts per million or greater for valves, connectors, instrumentation systems, and pressure relief devices is measured, a leak is detected.

(c)

(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 63.171 of this subpart.

(2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(3) For equipment identified in paragraph (a) of this section that is not monitored by the method specified in § 63.180(b), repaired shall mean that the visual, audible, olfactory, or other indications of a leak to the atmosphere have been eliminated; that no bubbles are observed at potential leak sites during a leak check using soap solution; or that the system will hold a test pressure.

(d) First attempts at repair include, but are not limited to, the practices described under §§ 63.163(c)(2) and 63.168(g) of this subpart, for pumps and valves, respectively.

§ 63.171 Standards: Delay of repair.

(a) replaced by 63.1363(b)(3)(i) Delay of repair of equipment for which leaks have been detected is allowed if one of the following conditions exist:

(A) The repair is technically infeasible without a process shutdown. Repair of this equipment shall occur by the end of the next scheduled process shutdown.

(B) The owner or operator determines that repair personnel would be exposed to an immediate danger if attempting to repair without a process shutdown. Repair of this equipment shall occur by the end of the next scheduled process shutdown.

(b) Delay of repair of equipment for which leaks have been detected is allowed for equipment that is isolated from the process and that does not remain in organic HAP service.

(c) Delay of repair for valves, connectors, and agitators is also allowed if:

(1) The owner or operator determines that emissions of purged material resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair, and

(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with § 63.172 of this subpart.

(d) Delay of repair for pumps is also allowed if:

(1) Repair requires replacing the existing seal design with a new system that the owner or operator has determined under the provisions of § 63.176(d) of this subpart will provide better performance or:

(i) A dual mechanical seal system that meets the requirements of § 63.163(e) of this subpart,

(ii) A pump that meets the requirements of § 63.163(f) of this subpart, or

(iii) A closed-vent system and control device that meets the requirements of § 63.163(g) of this subpart; and

(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

(e) Delay of repair beyond a process unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the second process unit shutdown will not be allowed unless the third process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

§ 63.172 Standards: Closed-vent systems and control devices.

(a) Owners or operators of closed-vent systems and control devices used to comply with provisions of this subpart shall comply with the provisions of this section, except as provided in § 63.162(b) of this subpart.

(b) Recovery or recapture devices (e.g., condensers and absorbers) shall be designed and operated to recover the organic hazardous air pollutant emissions or volatile organic compounds emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts par million by volume, whichever is less stringent. The 20 parts per million by volume performance standard is not applicable to the provisions of § 63.179.

(c) Enclosed combustion devices shall be designed and operated to reduce the organic hazardous air pollutant emissions or volatile organic compounds emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent, or to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760 °C.

(d) Flares used to comply with this subpart shall comply with the requirements of § 63.11(b) of subpart A of this part.

(e) Owners or operators of control devices that are used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their design.

Note: The intent of this provision is to ensure proper operation and maintenance of the control device.

(f) Except as provided in paragraphs (k) and (l) of this section, each closed-vent system shall be inspected according to the procedures and schedule specified in paragraphs (f)(1) and (f)(2) of this section.

(1) If the closed-vent system is constructed of hard-piping, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in paragraph (g) of this section, and

(ii) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

(2) If the vapor collection system or closed-vent system is constructed of duct work, the owner or operator shall:

(i) Conduct an initial inspection according to the procedures in paragraph (g) of this section, and

(ii) Conduct annual inspections according to the procedures in paragraph (g) of this section.

Note: 63.1363(b)(3)(ii)(B) Owners or operators may, instead of complying with the provisions of § 63.172(f), design a closed-vent system to operate at a pressure below atmospheric pressure. The system shall be equipped with at least one pressure gauge or other pressure measurement device that can be read from a readily accessible location to verify that negative pressure is being maintained in the closed-vent system when the associated control device is operating.

(g) Each closed-vent system shall be inspected according to the procedures in § 63.180(b) of this subpart.

(h) Leaks, as indicated by an instrument reading greater than 500 parts per million above background or by visual inspections, shall be repaired as soon as practicable, except as provided in paragraph (i) of this section.

(1) A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(2) Repair shall be completed no later than 15 calendar days after the leak is detected, except as provided in paragraph (i) of this section.

(i) Delay of repair of a closed-vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown.

(j) For each closed-vent system that contains bypass lines that could divert a vent stream away from the control device and to the atmosphere, the owner or operator shall comply with the provisions of either paragraph (j)(1) or (j)(2) of this section, except as provided in paragraph (j)(3) of this section.

(1) Install, set or adjust, maintain, and operate a flow indicator that takes a reading at least once every 15 minutes. Records shall be generated as specified in § 63.118(a)(3) of subpart G of this part. The flow indicator shall be installed at the entrance to any bypass line; or

(2) Secure the bypass line valve in the non-diverting position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure the valve is maintained in the non-diverting position and the vent stream is not diverted through the bypass line.

(3) Equipment such as low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, and pressure relief valves needed for safety purposes are not subject to this paragraph.

(k) and (l) These paragraphs shall not apply. The owner or operator shall instead comply with 63.1363 paragraph (f), provisions for unsafe to monitor, difficult-to-monitor, and inaccessible equipment. [63.1363(b)(3)(ii)(A)]

(m) Whenever organic HAP emissions are vented to a closed-vent system or control device used to comply with the provisions of this subpart, such system or control device shall be operating.

(n) After the compliance dates specified in § 63.100 of subpart F of this part, the owner or operator of any control device subject to this subpart that is also subject to monitoring, recordkeeping, and reporting requirements in 40 CFR part 264, subpart BB, or is subject to monitoring and recordkeeping requirements in 40 CFR part 265, subpart BB, may elect to comply either with the monitoring, recordkeeping, and reporting requirements of this subpart, or with the monitoring, recordkeeping, and reporting requirements in 40 CFR parts 264 and/or 265, as described in this paragraph, which shall constitute compliance with the monitoring, recordkeeping and reporting requirements of this subpart. The owner or operator shall identify which option has been chosen, in the next periodic report required by § 63.182(d).

§ 63.174 Standards: Connectors in gas/vapor service and in light liquid service.

(a) The owner or operator of a process unit subject to this subpart shall monitor all connectors in gas/vapor and light liquid service, except as provided in § 63.162(b) of this subpart, and in paragraphs (f) through (h) of this section, at the intervals specified in paragraph (b) of this section.

(1) The connectors shall be monitored to detect leaks by the method specified in § 63.180(b) of this subpart.

(2) If an instrument reading greater than or equal to 500 parts per million is measured, a leak is detected.

(b) Replaced by 63.1363(b)(3)(iii)(C) through (G).

(C) If the percent leaking connectors in a group of processes was greater than or equal to 0.5 percent during the initial monitoring period, monitoring shall be performed once per year until the percent leaking connectors is less than 0.5 percent.

(D) If the percent leaking connectors in the group of processes was less than 0.5 percent, but equal to or greater than 0.25 percent, during the last required monitoring period, monitoring shall be performed once every 4 years. An owner or operator may comply with the requirements of this paragraph by monitoring at least 40 percent of the connectors in the first 2 years and the remainder of the connectors within the next 2 years. The percent leaking connectors will be calculated for the total of all monitoring performed during the 4-year period.

(E) The owner or operator shall increase the monitoring frequency to once every 2 years for the next monitoring period if leaking connectors comprise at least 0.5 percent but less than 1.0 percent of the connectors monitored within either the 4 years specified in paragraph (b)(3)(iii)(D) of this section, the first 4 years specified in paragraph (b)(3)(iii)(G) of this section, or the entire 8 years specified in paragraph (b)(3)(iii)(G) of this section. At the end of that 2-year monitoring period, the owner or operator shall monitor once per year while the percent leaking connectors is greater than or equal to 0.5 percent; if the percent leaking connectors is less than 0.5 percent, the owner or operator may again elect to monitor in accordance with paragraph (b)(3)(iii)(D) or (G) of this section, as applicable.

(F) If an owner or operator complying with the requirements of paragraph (b)(3)(iii)(D) or (G) of this section for a group of processes determines that 1 percent or greater of the connectors are leaking, the owner or operator shall increase the monitoring frequency to one time per year. The owner or operator may again elect to use the provisions of paragraph (b)(3)(iii)(D) or (G) of this section after a monitoring period in which less than 0.5 percent of the connectors are determined to be leaking.

(G) Monitoring shall be required once every 8 years, if the percent leaking connectors in the group of process units was less than 0.25 percent during the last required monitoring period. An owner or operator shall monitor at least 50 percent of the connectors in the first 4 years and the remainder of the connectors within the next 4 years. If the percent leaking connectors in the first 4 years is equal to or greater than 0.35 percent, the monitoring program shall revert at that time to the appropriate monitoring frequency specified in paragraph (b)(3)(iii)(D), (E), or (F) of this section.

(c)

(1)

(i) Except as provided in paragraph (c)(1)(ii) of this section, each connector that has been opened or has otherwise had the seal broken shall be monitored for leaks when it is reconnected or within the first 3 months after being returned to organic hazardous air pollutants service. If the monitoring detects a leak, it shall be repaired according to the provisions of paragraph (d) of this section, unless it is determined to be nonrepairable, in which case it is counted as a nonrepairable connector for the purposes of paragraph (i)(2) of this section.

Note: 63.1363(b)(3)(iii)(B) Days that the connectors are not in organic HAP service shall not be considered part of the 3-month period in § 63.174(c).

(ii) As an alternative to the requirements in paragraph (c)(1)(i) of this section, an owner or operator may choose not to monitor connectors that have been opened or otherwise had the seal broken. In this case, the owner or operator may not count nonrepairable connectors for the purposes of paragraph (i)(2) of this section. The owner or operator shall calculate the percent leaking connectors for the monitoring periods described in paragraph (b) of this section, by setting the nonrepairable component, CAN, in the equation in paragraph (i)(2) of this section to zero for all monitoring periods.

(iii) An owner or operator may switch alternatives described in paragraphs (c)(1) (i) and (ii) of this section at the end of the current monitoring period he is in, provided that it is reported as required in § 63.182 of this subpart and begin the new alternative in annual monitoring. The initial monitoring in the new alternative shall be completed no later than 12 months after reporting the switch.

(2) As an alternative to the requirements of paragraph (b)(3) of this section, each screwed connector 2 inches or less in nominal inside diameter installed in a process unit before the dates specified in paragraph (c)(2)(iii) or (c)(2)(iv) of this section may:

(i) Comply with the requirements of § 63.169 of this subpart, and

(ii) Be monitored for leaks within the first 3 months after being returned to organic hazardous air pollutants service after having been opened or otherwise had the seal broken. If that monitoring detects a leak, it shall be repaired according to the provisions of paragraph (d) of this section.

(iii) For sources subject to subparts F and I of this part, the provisions of paragraph (c)(2) of this section apply to screwed connectors installed before December 31, 1992.

(iv) For sources not identified in paragraph (c)(2)(iii) of this section, the provisions of paragraph (c)(2) of this section apply to screwed connectors installed before the date of proposal of the applicable subpart of this part that references this subpart.

(d) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in paragraph (g) of this section and in § 63.171 of this subpart. A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

(e) [Reserved]

(f), (g) and (h) These paragraphs shall not apply. The owner or operator shall instead comply with 63.1363 paragraph (f), provisions for unsafe to monitor, difficult-to-monitor, and inaccessible equipment. [63.1363(b)(3)(iii)(A)]

(i) For use in determining the monitoring frequency, as specified in paragraph (b) of this section, the percent leaking connectors shall be calculated as specified in paragraphs (i)(1) and (i)(2) of this section.

(1) For the first monitoring period, use the following equation:

$$\% CL = CL/(Ct + CC) \times 100$$

where:
% CL= Percent leaking connectors as determined through periodic monitoring required in paragraphs (a) and (b) of this section.
CL= Number of connectors measured at 500 parts per million or greater, by the method specified in § 63.180(b) of this subpart.
Ct= Total number of monitored connectors in the process unit.
CC= Optional credit for removed connectors = 0.67 × net (i.e., total removed -- total added) number of connectors in organic hazardous air pollutants service removed from the process unit after the compliance date set forth in the applicable subpart for existing process units, and after the date of initial start-up for new process units. If credits are not taken, then CC= 0.

(2) For subsequent monitoring periods, use the following equation:

$$\% CL = [(CL\− CAN)/(Ct + CC)] \times 100$$

where:
% CL= Percent leaking connectors as determined through periodic monitoring required in paragraphs (a) and (b) of this section.
CL= Number of connectors, including nonrepairables, measured at 500 parts per million or greater, by the method specified in § 63.180(b) of this subpart.
CAN= Number of allowable nonrepairable connectors, as determined by monitoring required in paragraphs (b)(3) and (c) of this section, not to exceed 2 percent of the total connector population, Ct.
Ct= Total number of monitored connectors, including nonrepairables, in the process unit.
CC= Optional credit for removed connectors = 0.67 × net number (i.e., total removed -- total added) of connectors in organic hazardous air pollutants service removed from the process unit after the compliance date set forth in the applicable subpart for existing process units, and after the date of initial start-up for new process units. If credits are not taken, then CC= 0.

(j) Optional credit for removed connectors. If an owner or operator eliminates a connector subject to monitoring under paragraph (b) of this section, the owner or operator may receive credit for elimination of the connector, as described in paragraph (i) of this section, provided the requirements in paragraphs (j)(1) through (j)(4) are met.

(1) The connector was welded after the date of proposal of the specific subpart that references this subpart.

(2) The integrity of the weld is demonstrated by monitoring it according to the procedures in § 63.180(b) of this subpart or by testing using X-ray, acoustic monitoring, hydrotesting, or other applicable method.

(3) Welds created after the date of proposal but before the date of promulgation of a specific subpart that references this subpart are monitored or tested by 3 months after the compliance date specified in the applicable subpart.

(4) Welds created after promulgation of the subpart that references this subpart are monitored or tested within 3 months after being welded.

(5) If an inadequate weld is found or the connector is not welded completely around the circumference, the connector is not considered a welded connector and is therefore not exempt from the provisions of this subpart.

§ 63.177 Alternative means of emission limitation: General.

(a) Permission to use an alternative means of emission limitation under section 112(h)(3) of the Act shall be governed by the following procedures in paragraphs (b) through (e) of this section.

(b) Where the standard is an equipment, design, or operational requirement:

(1) Each owner or operator applying for permission to use an alternative means of emission limitation under § 63.6(g) of subpart A of this part shall be responsible for collecting and verifying emission performance test data for an alternative means of emission limitation.

(2) The Administrator will compare test data for the means of emission limitation to test data for the equipment, design, and operational requirements.

(3) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve the same emission reduction as the equipment, design, and operational requirements.

(c) Where the standard is a work practice:

(1) Each owner or operator applying for permission shall be responsible for collecting and verifying test data for an alternative means of emission limitation.

(2) For each kind of equipment for which permission is requested, the emission reduction achieved by the required work practices shall be demonstrated for a minimum period of 12 months.

(3) For each kind of equipment for which permission is requested, the emission reduction achieved by the alternative means of emission limitation shall be demonstrated.

(4) Each owner or operator applying for permission shall commit, in writing, for each kind of equipment to work practices that provide for emission reductions equal to or greater than the emission reductions achieved by the required work practices.

(5) The Administrator will compare the demonstrated emission reduction for the alternative means of emission limitation to the demonstrated emission reduction for the required work practices and will consider the commitment in paragraph (c)(4) of this section.

(6) The Administrator may condition the permission on requirements that may be necessary to ensure operation and maintenance to achieve the same or greater emission reduction as the required work practices of this subpart.

(d) An owner or operator may offer a unique approach to demonstrate the alternative means of emission limitation.

(e)

(1) Manufacturers of equipment used to control equipment leaks of an organic HAP may apply to the Administrator for permission for an alternative means of emission limitation that achieves a reduction in emissions of the organic HAP achieved by the equipment, design, and operational requirements of this subpart.

(2) The Administrator will grant permission according to the provisions of paragraphs (b), (c), and (d) of this section.

§ 63.178 Alternative means of emission limitation: Batch processes.

(a) As an alternative to complying with the requirements of §§ 63.163 through 63.171 and §§ 63.173 through 63.176, an owner or operator of a batch process that operates in organic HAP service during the calendar year may comply with one of the standards specified in paragraphs (b) and (c) of this section, or the owner or operator may petition for approval of an alternative standard under the provisions of § 63.177 of this subpart. The alternative standards of this section provide the options of pressure testing or monitoring the equipment for leaks. The owner or operator may switch among the alternatives provided the change is documented as specified in § 63.181.

(b) The following requirements shall be met if an owner or operator elects to use pressure testing of batch product-process equipment to demonstrate compliance with this subpart. An owner or operator who complies with the provisions of this paragraph is exempt from the monitoring provisions of § 63.163, §§ 63.168 and 63.169, and §§ 63.173 through 63.176 of this subpart.

Note: 63.1363(b)(3)(iv)(A) Section 63.178(b), requirements for pressure testing, shall apply to all processes, not just batch processes.

(1) Each time equipment is reconfigured for production of a different product or intermediate, the batch product-process equipment train shall be pressure-tested for leaks before organic HAP is first fed to the equipment and the equipment is placed in organic HAP service.

(i) When the batch product-process train is reconfigured to produce a different product, pressure testing is required only for the new or disturbed equipment.

(ii) Each batch product process that operates in organic HAP service during a calendar year shall be pressure tested at least once during that calendar year.

(iii) Pressure testing is not required for routine seal breaks, such as changing hoses or filters, which are not part of the reconfiguration to produce a different product or intermediate.

(2) The batch product process equipment shall be tested either using the procedures specified in § 63.180(f) of this subpart for pressure or vacuum loss or with a liquid using the procedures specified in § 63.180(g) of this subpart.

(3)

(i) For pressure or vacuum tests, a leak is detected if the rate of change in pressure is greater than 6.9 kilopascals (1 psig) in 1 hour or if there is visible, audible, or olfactory evidence of fluid loss.

(ii) For pressure tests using a liquid, a leak is detected if there are indications of liquids dripping or if there is other evidence of fluid loss.

(4)

(i) If a leak is detected, it shall be repaired and the batch product-process equipment shall be retested before start-up of the process.

(ii) If a batch product-process fails the retest or the second of two consecutive pressure tests, it shall be repaired as soon as practicable, but not later than 30 calendar days after the second pressure test, provided the conditions specified in paragraph (d) of this section are met.

(c) The following requirements shall be met if an owner or operator elects to monitor the equipment to detect leaks by the method specified in § 63.180(b) of this subpart to demonstrate compliance with this subpart.

(1) The owner or operator shall comply with the requirements of §§ 63.163 through 63.170, and §§ 63.172 through 63.176 of this subpart.

(2) The equipment shall be monitored for leaks by the method specified in § 63.180(b) of this subpart when the equipment is in organic HAP service, in use with an acceptable surrogate volatile organic compound which is not an organic HAP, or is in use with any other detectable gas or vapor.

(3) The equipment shall be monitored for leaks as specified below:

(i) Each time the equipment is reconfigured for the production of a new product, the reconfigured equipment shall be monitored for leaks within 30 days of start-up of the process. This initial monitoring of reconfigured equipment shall not be included in determining percent leaking equipment in the process unit.

(ii) Connectors shall be monitored in accordance with the requirements in § 63.174 of this subpart.

(iii) Equipment other than connectors shall be monitored at the frequencies specified in table 1 of this subpart. The operating time shall be determined as the proportion of the year the batch product-process that is subject to the provisions of this subpart is operating.

Note: 63.1363(b)(3)(iv)(B) For pumps, the phrase "at the frequencies specified in Table 1 of this subpart" in § 63.178(c)(3)(iii) shall mean "quarterly" for the purposes of 40 CFR 63, Subpart MMM.

(iv) The monitoring frequencies specified in table 1 of this subpart are not requirements for monitoring at specific intervals and can be adjusted to accommodate process operations. An owner or operator may monitor anytime during the specified monitoring period (e.g., month, quarter, year), provided the monitoring is conducted at a reasonable interval after completion of the last monitoring campaign. For example, if the equipment is not operating during the scheduled monitoring period, the monitoring can be done during the next period when the process is operating.

(4) If a leak is detected, it shall be repaired as soon as practicable but not later than 15 calendar days after it is detected, except as provided in paragraph (d) of this section.

(d) Delay of repair of equipment for which leaks have been detected is allowed if the replacement equipment is not available providing the following conditions are met:

(1) Equipment supplies have been depleted and supplies had been sufficiently stocked before the supplies were depleted.

(2) The repair is made no later than 10 calendar days after delivery of the replacement equipment.

§ 63.179 Alternative means of emission limitation: Enclosed-vented process units.

Process units enclosed in such a manner that all emissions from equipment leaks are vented through a closed-vent system to a control device meeting the requirements of § 63.172 of this subpart are exempt from the requirements of § 63.163, through 63.171, and §§ 63.173 and 63.174 of this subpart. The enclosure shall be maintained under a negative pressure at all times while the process unit is in operation to ensure that all emissions are routed to a control device.

§ 63.180 Test methods and procedures.

(a) Each owner or operator subject to the provisions of this subpart shall comply with the test methods and procedures requirements provided in this section.

(b) Monitoring, as required under this subpart, shall comply with the following requirements:

(1) Monitoring shall comply with Method 21 of 40 CFR part 60, appendix A.

(2)

(i) Except as provided for in paragraph (b)(2)(ii) of this section, the detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, appendix A, except the instrument response factor criteria in Section 3.1.2(a) of Method 21 shall be for the average composition of the process fluid not each individual VOC in the stream. For process streams that contain nitrogen, water, air, or other inerts which are not organic HAP's or VOC's, the average stream response factor may be calculated on an inert-free basis. The response factor may be determined at any concentration for which monitoring for leaks will be conducted.

(ii) If no instrument is available at the plant site that will meet the performance criteria specified in paragraph (b)(2)(i) of this section, the instrument readings may be adjusted by multiplying by the average response factor of the process fluid, calculated on an inert-free basis as described in paragraph (b)(2)(i) of this section.

(3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, appendix A.

(4) Calibration gases shall be:

(i) Zero air (less than 10 parts per million of hydrocarbon in air); and

(ii) Mixtures of methane in air at the concentrations specified in paragraphs (b)(4)(ii)(A) through (b)(4)(ii)(C) of this section. A calibration gas other than methane in air may be used if the instrument does not respond to methane or if the instrument does not meet the performance criteria specified in paragraph (b)(2)(i) of this section. In such cases, the calibration gas may be a mixture of one or more of the compounds to be measured in air.

(A), (B), and (C) have been replaced by 63.1363(b)(3)(v). Calibration gases shall be a mixture of methane and air at a concentration of approximately, but less than, 10,000 parts per million methane for agitators, 2,000 parts per million for pumps, and 500 parts per million for all other equipment, except as provided in § 63.180(b)(4)(iii).

(iii) The instrument may be calibrated at a higher methane concentration than the concentration specified for that piece of equipment. The concentration of the calibration gas may exceed the concentration specified as a leak by no more than 2,000 parts per million. If the monitoring instrument's design allows for multiple calibration scales, then the lower scale shall be calibrated with a calibration gas that is no higher than 2,000 parts per million above the concentration specified as a leak and the highest scale shall be calibrated with a calibration gas that is approximately equal to 10,000 parts per million. If only one scale on an instrument will be used during monitoring, the owner or operator need not calibrate the scales that will not be used during that day's monitoring.

(5) Monitoring shall be performed when the equipment is in organic HAP service, in use with an acceptable surrogate volatile organic compound which is not an organic HAP, or is in use with any other detectable gas or vapor.

(6) Monitoring data that do not meet the criteria specified in paragraphs (b)(1) through (b)(5) of this section may be used to qualify for less frequent monitoring under the provisions in § 63.168(d)(2) and (d)(3) or § 63.174(b)(3)(ii) or (b)(3)(iii) of this subpart provided the data meet the conditions specified in paragraphs (b)(6)(i) and (b)(6)(ii) of this section.

(i) The data were obtained before April 22, 1994.

(ii) The departures from the criteria specified in paragraphs (b)(1) through (b)(5) of this section or from the specified monitoring frequency of § 63.168(c) are minor and do not significantly affect the quality of the data. Examples of minor departures are monitoring at a slightly different frequency (such as every six weeks instead of monthly or quarterly), following the performance criteria of section 3.1.2(a) of Method 21 of appendix A of 40 CFR part 60 instead of paragraph (b)(2) of this section, or monitoring at a different leak definition if the data would indicate the presence or absence of a leak at the concentration specified in this subpart. Failure to use a calibrated instrument is not considered a minor departure.

(c) When equipment is monitored for compliance as required in §§ 63.164(i), 63.165(a), and 63.172(f) or when equipment subject to a leak definition of 500 ppm is monitored for leaks as required by this subpart, the owner or

operator may elect to adjust or not to adjust the instrument readings for background. If an owner or operator elects to not adjust instrument readings for background, the owner or operator shall monitor the equipment according to the procedures specified in paragraphs (b)(1) through (b)(4) of this section. In such case, all instrument readings shall be compared directly to the applicable leak definition to determine whether there is a leak. If an owner or operator elects to adjust instrument readings for background, the owner or operator shall monitor the equipment according to the procedures specified in paragraphs (c)(1) through (c)(4) of this section.

(1) The requirements of paragraphs (b) (1) through (4) of this section shall apply.

(2) The background level shall be determined, using the same procedures that will be used to determine whether the equipment is leaking.

(3) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Method 21 of 40 CFR part 60, appendix A.

(4) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 parts per million for determining compliance.

(d)

(1) Each piece of equipment within a process unit that can reasonably be expected to contain equipment in organic HAP service is presumed to be in organic HAP service unless an owner or operator demonstrates that the piece of equipment is not in organic HAP service. For a piece of equipment to be considered not in organic HAP service, it must be determined that the percent organic HAP content can be reasonably expected not to exceed 5 percent by weight on an annual average basis. For purposes of determining the percent organic HAP content of the process fluid that is contained in or contacts equipment, Method 18 of 40 CFR part 60, appendix A shall be used.

(2)

(i) An owner or operator may use good engineering judgment rather than the procedures in paragraph (d)(1) of this section to determine that the percent organic HAP content does not exceed 5 percent by weight. When an owner or operator and the Administrator do not agree on whether a piece of equipment is not in organic HAP service, however, the procedures in paragraph (d)(1) of this section shall be used to resolve the disagreement.

(ii) Conversely, the owner or operator may determine that the organic HAP content of the process fluid does not exceed 5 percent by weight by, for example, accounting for 98 percent of the content and showing that organic HAP is less than 3 percent.

(3) If an owner or operator determines that a piece of equipment is in organic HAP service, the determination can be revised after following the procedures in paragraph (d)(1) of this section, or by documenting that a change in the process or raw materials no longer causes the equipment to be in organic HAP service.

(4) Samples used in determining the percent organic HAP content shall be representative of the process fluid that is contained in or contacts the equipment.

(e) When a flare is used to comply with § 63.172(d), the owner or operator shall comply with paragraphs (e)(1) through (3) of this section. The owner or operator is not required to conduct a performance test to determine percent emission reduction or outlet organic HAP or TOC concentration.

(1) Conduct a visible emission test using the techniques specified in § 63.11(b)(4).

(2) Determine the net heating value of the gas being combusted using the techniques specified in § 63.11(b)(6).

(3) Determine the exit velocity using the techniques specified in either § 63.11(b)(7)(i) (and § 63.11(b)(7)(iii), where applicable) or § 63.11(b)(8), as appropriate.

(f) The following procedures shall be used to pressure test batch product-process equipment for pressure or vacuum loss to demonstrate compliance with the requirements of § 63.178(b)(3)(i) of this subpart.

(1) The batch product-process equipment train shall be pressurized with a gas to a pressure less than the set pressure of any safety relief devices or valves or to a pressure slightly above the operating pressure of the equipment, or alternatively, the equipment shall be placed under a vacuum.

(2) Once the test pressure is obtained, the gas source or vacuum source shall be shut off.

(3) The test shall continue for not less than 15 minutes unless it can be determined in a shorter period of time that the allowable rate of pressure drop or of pressure rise was exceeded. The pressure in the batch product-process equipment shall be measured after the gas or vacuum source is shut off and at the end of the test period. The rate of change in pressure in the batch product-process equipment shall be calculated using the following equation:

$$\Delta\frac{P}{t} = \frac{\left(\left|P_f - P_i\right|\right)}{\left(t_f - t_i\right)}$$

where:
Δ P/t=Change in pressure, psig/hr.
Pf=Final pressure, psig.
Pi=Initial pressure, psig.
tf−ti=Elapsed time, hours.

(4) The pressure shall be measured using a pressure measurement device (gauge, manometer, or equivalent) which has a precision of ±2.5 millimeter mercury in the range of test pressure and is capable of measuring pressures up to the relief set pressure of the pressure relief device. If such a pressure measurement device is not reasonably available, the owner or operator shall use a pressure measurement device with a precision of at least +10 percent of the test pressure of the equipment and shall extend the duration of the test for the time necessary to detect a pressure loss or rise that equals a rate of one psig per hour.

(5) An alternative procedure may be used for leak testing the equipment if the owner or operator demonstrates the alternative procedure is capable of detecting a pressure loss or rise.

(g) The following procedures shall be used to pressure-test batch product-process equipment using a liquid to demonstrate compliance with the requirements of § 63.178(b)(3)(ii) of this subpart.

(1) The batch product-process equipment train, or section of the train, shall be filled with the test liquid (e.g., water, alcohol) until normal operating pressure is obtained. Once the equipment is filled, the liquid source shall be shut off.

(2) The test shall be conducted for a period of at least 60 minutes, unless it can be determined in a shorter period of time that the test is a failure.

(3) Each seal in the equipment being tested shall be inspected for indications of liquid dripping or other indications of fluid loss. If there are any indications of liquids dripping or of fluid loss, a leak is detected.

(4) An alternative procedure may be used for leak testing the equipment, if the owner or operator demonstrates the alternative procedure is capable of detecting losses of fluid.

(c) *standards for pumps in light liquid service and agitators in gas/vapor service and in light liquid service.*

(1) The provisions of this section apply to each pump that is in light liquid service, and to each agitator in gas/vapor service or in light liquid service.

(2)

(i) *Monitoring.* Each pump and agitator subject to this section shall be monitored quarterly to detect leaks by the method specified in § 63.180(b), except as provided in §§ 63.177, 63.178, paragraph (f) of this section, and paragraphs (c)(5) through (9) of this section.

(ii) *Leak definition.* The instrument reading, as determined by the method as specified in § 63.180(b) of subpart H of this part, that defines a leak is:

(A) For agitators, an instrument reading of 10,000 parts per million or greater.

(B) For pumps, an instrument reading of 2,000 parts per million or greater.

(iii) *Visual inspections.* Each pump and agitator shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump or agitator seal. If there are indications of liquids dripping from the seal at the time of the weekly inspection, the owner or operator shall follow the procedure specified in either paragraph (c)(2)(iii)(A) or (B) of this section prior to the next weekly inspection.

(A) The owner or operator shall monitor the pump or agitator by the method specified in § 63.180(b). If the instrument reading indicates a leak as specified in paragraph (c)(2)(ii) of this section, a leak is detected.

(B) The owner or operator shall eliminate the visual indications of liquids dripping.

(3) *Repair provisions.*

(i) When a leak is detected pursuant to paragraph (c)(2)(i), (c)(2)(iii)(A), (c)(5)(iv)(A), or (c)(5)(vi)(B) of this section, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in paragraph (b)(3)(i) of this section.

(ii) If, calculated on a 1-year rolling average, 10 percent or more of the pumps in a group of processes (or 3 pumps in a group of processes with fewer than 30 pumps) leak, the owner or operator shall monitor each pump once per month, until the calculated 1-year rolling average value drops below 10 percent (or three pumps in a group of processes with fewer than 30 pumps).

(4) *Calculation of percent leakers.*

(i) The owner or operator shall decide no later than the end of the first monitoring period what groups of processes will be developed. Once the owner or operator has decided, all subsequent percent calculations shall be made on the same basis.

(ii) If, calculated on a 1 year rolling average, the greater of either 10 percent or three of the pumps in a group of processes leak, the owner or operator shall monitor each pump once per month.

(iii) The number of pumps in a group of processes shall be the sum of all the pumps in organic HAP service, except that pumps found leaking in a continuous process within 1 quarter after startup of the pump shall not count in the percent leaking pumps calculation for that one monitoring period only.

(iv) Percent leaking pumps shall be determined using Equation 3 of this subpart:

$$\%P_L = \left[\left(P_L - P_S\right)/\left(P_T - P_S\right)\right] \times 100 \qquad (Eq.\ 3)$$

where:

%PL = percent leaking pumps

PL = number of pumps found leaking as determined through quarterly monitoring as required in paragraphs (c)(2)(i) and (ii) of this section.

PT = total pumps in organic HAP service, including those meeting the criteria in paragraphs (c)(5) and (6) of this section

PS = number of pumps in a continuous process leaking within 1 quarter of startup during the current monitoring period

(5) *Exemptions.* Each pump or agitator equipped with a dual mechanical seal system that includes a barrier fluid system and meets the requirements specified in paragraphs (c)(5)(i) through (vii) is exempt from the requirements of paragraphs (c)(1) through (c)(4)(iii) of this section, except as specified in paragraphs (c)(5)(iv)(A) and (vii) of this section.

(i) Each dual mechanical seal system is:

(A) Operated with the barrier fluid at a pressure that is at all times greater than the pump/agitator stuffing box pressure; or

(B) Equipped with a barrier fluid degassing reservoir that is connected by a closed-vent system to a control device that complies with the requirements of paragraph (b)(3)(ii) of this section; or

(C) Equipped with a closed-loop system that purges the barrier fluid into a process stream.

(ii) The barrier fluid is not in light liquid service.

(iii) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(iv) Each pump/agitator is checked by visual inspection each calendar week for indications of liquids dripping from the pump/agitator seal. If there are indications of liquids dripping from the pump or agitator seal at the time of the weekly inspection, the owner or operator shall follow the procedures specified in either paragraph (c)(5)(iv)(A) or (B) of this section prior to the next required inspection.

(A) The owner or operator shall monitor the pump or agitator using the method specified in § 63.180(b) to determine if there is a leak of organic HAP in the barrier fluid. If the instrument reading indicates a leak, as specified in paragraph (c)(2)(ii) of this section, a leak is detected.

(B) The owner or operator shall eliminate the visual indications of liquids dripping.

(v) Each sensor as described in paragraph (c)(5)(iii) of this section is observed daily or is equipped with an alarm unless the pump is located within the boundary of an unmanned plant site.

(vi)

(A) The owner or operator determines, based on design considerations and operating experience, criteria applicable to the presence and frequency of drips and to the sensor that indicate failure of the seal system, the barrier fluid system, or both.

(B) If indications of liquids dripping from the pump/agitator seal exceed the criteria established in paragraph (c)(5)(vi)(A) of this section, or if, based on the criteria established in paragraph (c)(5)(vi)(A) of this section, the sensor indicates failure of the seal system, the barrier fluid system, or both, a leak is detected.

(vii) When a leak is detected pursuant to paragraph (c)(5)(iv)(A) or (vi)(B) of this section, the leak must be repaired as specified in paragraph (c)(3) of this section.

(6) Any pump/agitator that is designed with no externally actuated shaft penetrating the pump/agitator housing is exempt from the requirements of paragraphs (c)(1) through (3) of this section.

(7) Any pump/agitator equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals back to the process or to a control device that complies with the requirements of paragraph (b)(3)(ii) of this section is exempt from the requirements of paragraphs (c)(2) through (5) of this section.

(8) Any pump/agitator that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of paragraphs (c)(2)(iii) and (c)(5)(iv) of this section, and the daily requirements of paragraph (c)(5)(v) of this section, provided that each pump/agitator is visually inspected as often as practicable and at least monthly.

(9) If more than 90 percent of the pumps in a group of processes meet the criteria in either paragraph (c)(5) or (6) of this section, the group of processes is exempt from the requirements of paragraph (c)(4) of this section.

(d) *Standards: open-ended valves or lines.*

(1)

(i) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in § 63.177 of subpart H of this part and paragraphs (d)(4) through (6) of this section.

(ii) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line, or during maintenance or repair. The cap, blind flange, plug, or second valve shall be in place within 1 hour of cessation of operations requiring process fluid flow through the open-ended valve or line, or within 1 hour of cessation of maintenance or repair.

(2) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

(3) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (d)(1) of this section at all other times.

(4) Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of paragraphs (d)(1) through (3) of this section.
(5) Open-ended valves or lines containing materials which would autocatalytically polymerize are exempt from the requirements of paragraphs (d)(1) through (3) of this section.
(6) Open-ended valves or lines containing materials which could cause an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in paragraphs (d)(1) through (3) of this section are exempt from the requirements of paragraphs (d)(1) through (3) of this section.

(e) *Standards: valves in gas/vapor service and in light liquid service.*
(1) The provisions of this section apply to valves that are either in gas/vapor service or in light liquid service.
(2) For existing and new affected sources, all valves subject to this section shall be monitored, except as provided in paragraph (f) of this section and in § 63.177 of subpart H of this part, by no later than 1 year after the compliance date.
(3) *Monitoring.* The owner or operator of a source subject to this section shall monitor all valves, except as provided in paragraph (f) of this section and in § 63.177 of subpart H of this part, at the intervals specified in paragraph (e)(4) of this section and shall comply with all other provisions of this section, except as provided in paragraph (b)(3)(i) of this section and §§ 63.178 and 63.179 of subpart H of this part.
(i) The valves shall be monitored to detect leaks by the method specified in § 63.180(b) of subpart H of this part.
(ii) An instrument reading of 500 parts per million or greater defines a leak.
(4) *Subsequent monitoring frequencies.* After conducting the initial survey required in paragraph (e)(2) of this section, the owner or operator shall monitor valves for leaks at the intervals specified below:
(i) For a group of processes with 2 percent or greater leaking valves, calculated according to paragraph (e)(6) of this section, the owner or operator shall monitor each valve once per month, except as specified in paragraph (e)(9) of this section.
(ii) For a group of processes with less than 2 percent leaking valves, the owner or operator shall monitor each valve once each quarter, except as provided in paragraphs (e)(4)(iii) through (v) of this section.
(iii) For a group of processes with less than 1 percent leaking valves, the owner or operator may elect to monitor each valve once every 2 quarters.
(iv) For a group of processes with less than 0.5 percent leaking valves, the owner or operator may elect to monitor each valve once every 4 quarters.
(v) For a group of processes with less than 0.25 percent leaking valves, the owner or operator may elect to monitor each valve once every 2 years.
(5) *Calculation of percent leakers.* For a group of processes to which this subpart applies, the owner or operator may choose to subdivide the valves in the applicable group of processes and apply the provisions of paragraph (e)(4) of this section to each subgroup. If the owner or operator elects to subdivide the valves in the applicable group of processes, then the provisions of paragraphs (e)(5)(i) through (viii) of this section apply.
(i) The overall performance of total valves in the applicable group of processes must be less than 2 percent leaking valves, as detected according to paragraphs (e)(3)(i) and (ii) of this section and as calculated according to paragraphs (e)(6)(ii) and (iii) of this section.
(ii) The initial assignment or subsequent reassignment of valves to subgroups shall be governed by the provisions of paragraphs (e)(5)(ii) (A) through (C) of this section.
(A) The owner or operator shall determine which valves are assigned to each subgroup. Valves with less than 1 year of monitoring data or valves not monitored within the last 12 months must be placed initially into the most frequently monitored subgroup until at least 1 year of monitoring data have been obtained.
(B) Any valve or group of valves can be reassigned from a less frequently monitored subgroup to a more frequently monitored subgroup provided that the valves to be reassigned were monitored during the most recent monitoring period for the less frequently monitored subgroup. The monitoring results must be included with the less frequently monitored subgroup's monitoring event and associated next percent leaking valves calculation for that group.
(C) Any valve or group of valves can be reassigned from a more frequently monitored subgroup to a less frequently monitored subgroup provided that the valves to be reassigned have not leaked for the period of the less frequently monitored subgroup (e.g., for the last 12 months, if the valve or group of valves is to be reassigned to a subgroup being monitored annually). Nonrepairable valves may not be reassigned to a less frequently monitored subgroup.

(iii) The owner or operator shall determine every 6 months if the overall performance of total valves in the applicable group of processes is less than 2 percent leaking valves and so indicate the performance in the next Periodic report. If the overall performance of total valves in the applicable group of processes is 2 percent leaking valves or greater, the owner or operator shall revert to the program required in paragraphs (e)(2) through (4) of this section. The overall performance of total valves in the applicable group of processes shall be calculated as a weighted average of the percent leaking valves of each subgroup according to Equation 4 of this subpart:

$$\%V_{LO} = \frac{\sum_{i=1}^{n}\left(\%V_{Li} \times V_i\right)}{\sum_{i=1}^{n} V_i} \qquad (Eq.\ 4)$$

where:
%VLO = overall performance of total valves in the applicable group of processes
%VLi = percent leaking valves in subgroup i, most recent value calculated according to the procedures in paragraphs (e)(6)(ii) and (iii) of this section
Vi = number of valves in subgroup i
n = number of subgroups

(iv) *Records.* In addition to records required by paragraph (g) of this section, the owner or operator shall maintain records specified in paragraphs (e)(5)(iv)(A) through (D) of this section.
(A) Which valves are assigned to each subgroup,
(B) Monitoring results and calculations made for each subgroup for each monitoring period,
(C) Which valves are reassigned and when they were reassigned, and
(D) The results of the semiannual overall performance calculation required in paragraph (e)(5)(iii) of this section.

(v) The owner or operator shall notify the Administrator no later than 30 days prior to the beginning of the next monitoring period of the decision to subgroup valves. The notification shall identify the participating processes and the valves assigned to each subgroup.

(vi) *Semiannual reports.* In addition to the information required by paragraph (h)(3) of this section, the owner or operator shall submit in the Periodic reports the information specified in paragraphs (e)(5)(vi)(A) and (B) of this section.
(A) Valve reassignments occurring during the reporting period, and
(B) Results of the semiannual overall performance calculation required by paragraph (e)(5)(iii) of this section.

(vii) To determine the monitoring frequency for each subgroup, the calculation procedures of paragraph (e)(6)(iii) of this section shall be used.

(viii) Except for the overall performance calculations required by paragraphs (e)(5)(i) and (iii) of this section, each subgroup shall be treated as if it were a process for the purposes of applying the provisions of this section.

(6)

(i) The owner or operator shall decide no later than the implementation date of this subpart or upon revision of an operating permit how to group the processes. Once the owner or operator has decided, all subsequent percentage calculations shall be made on the same basis.

(ii) Percent leaking valves for each group of processes or subgroup shall be determined using Equation 5 of this subpart:

$$\%V_L = \left[V_L / V_T\right] \times 100 \qquad (Eq.\ 5)$$

Where:
%VL = percent leaking valves
VL = number of valves found leaking excluding nonrepairables as provided in paragraph (e)(6)(iv)(A) of this section

VT = total valves monitored, in a monitoring period excluding valves monitored as required by paragraph (e)(7)(iii) of this section

(iii) When determining monitoring frequency for each group of processes or subgroup subject to monthly, quarterly, or semiannual monitoring frequencies, the percent leaking valves shall be the arithmetic average of the percent leaking valves from the last two monitoring periods. When determining monitoring frequency for each group of processes or subgroup subject to annual or biennial (once every 2 years) monitoring frequencies, the percent leaking valves shall be the arithmetic average of the percent leaking valves from the last three monitoring periods.

(iv)

(A) Nonrepairable valves shall be included in the calculation of percent leaking valves the first time the valve is identified as leaking and nonrepairable and as required to comply with paragraph (e)(6)(iv)(B) of this section. Otherwise, a number of nonrepairable valves (identified and included in the percent leaking calculation in a previous period) up to a maximum of 1 percent of the total number of valves in organic HAP service at a process may be excluded from calculation of percent leaking valves for subsequent monitoring periods.

(B) If the number of nonrepairable valves exceeds 1 percent of the total number of valves in organic HAP service at a process, the number of nonrepairable valves exceeding 1 percent of the total number of valves in organic HAP service shall be included in the calculation of percent leaking valves.

(7) *Repair provisions.*

(i) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in paragraph (b)(3)(i) of this section.

(ii) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(iii) When a leak is repaired, the valve shall be monitored at least once within the first 3 months after its repair. Days that the valve is not in organic HAP service shall not be considered part of this 3-month period. The monitoring required by this paragraph is in addition to the monitoring required to satisfy the definitions of "repaired" and "first attempt at repair."

(A) The monitoring shall be conducted as specified in § 63.180(b) and (c) as appropriate, to determine whether the valve has resumed leaking.

(B) Periodic monitoring required by paragraphs (e)(2) through (4) of this section may be used to satisfy the requirements of paragraph (e)(7)(iii) of this section, if the timing of the monitoring period coincides with the time specified in paragraph (e)(7)(iii) of this section. Alternatively, other monitoring may be performed to satisfy the requirements of paragraph (e)(7)(iii) of this section, regardless of whether the timing of the monitoring period for periodic monitoring coincides with the time specified in paragraph (e)(7)(iii) of this section.

(C) If a leak is detected by monitoring that is conducted pursuant to paragraph (e)(7)(iii) of this section, the owner or operator shall follow the provisions of paragraphs (e)(7)(iii)(C)(*1*) and (*2*) of this section to determine whether that valve must be counted as a leaking valve for purposes of paragraph (e)(6) of this section.

(*1*) If the owner or operator elects to use periodic monitoring required by paragraphs (e)(2) through (4) of this section to satisfy the requirements of paragraph (e)(7)(iii) of this section, then the valve shall be counted as a leaking valve.

(*2*) If the owner or operator elects to use other monitoring prior to the periodic monitoring required by paragraphs (e)(2) through (4) of this section to satisfy the requirements of paragraph (e)(7)(iii) of this section, then the valve shall be counted as a leaking valve unless it is repaired and shown by periodic monitoring not to be leaking.

(8) First attempts at repair include, but are not limited to, the following practices where practicable:

(i) Tightening of bonnet bolts,

(ii) Replacement of bonnet bolts,

(iii) Tightening of packing gland nuts, and

(iv) Injection of lubricant into lubricated packing.

(9) Any equipment located at a plant site with fewer than 250 valves in organic HAP service in the affected source is exempt from the requirements for monthly monitoring specified in paragraph (e)(4)(i) of this section. Instead, the owner or operator shall monitor each valve in organic HAP service for leaks once each quarter, or comply with paragraph (e)(4)(iii), (iv), or (v) of this section, except as provided in paragraph (f) of this section.

(f) *Unsafe to monitor, difficult-to-monitor, and inaccessible equipment.*

(1) Equipment that is designated as unsafe-to-monitor, difficult-to-monitor, or inaccessible is exempt from the requirements as specified in paragraphs (f)(1)(i) through (iv) of this section provided the owner or operator meets the requirements specified in paragraph (f)(2), (3), or (4) of this section, as applicable. All equipment, except connectors that meet the requirements in paragraph (f)(4) of this section, must be assigned to a group of processes. Ceramic or ceramic-lined connectors are subject to the same requirements as inaccessible connectors.

(i) For pumps and agitators, paragraphs (c)(2), (3), and (4) of this section do not apply.

(ii) For valves, paragraphs (e)(2) through (7) of this section do not apply.

(iii) For connectors, § 63.174(b) through (e) and paragraphs (b)(3)(iii)(C) through (G) of this section do not apply.

(iv) For closed-vent systems, § 63.172(f)(1), (f)(2), and (g) do not apply.

(2) *Equipment that is unsafe-to-monitor.*

(i) Valves, connectors, agitators, and any part of closed-vent systems may be designated as unsafe-to-monitor if the owner or operator determines that monitoring personnel would be exposed to an immediate danger as a consequence of complying with the monitoring requirements identified in paragraphs (f)(1)(i) through (iii) of this section, or the inspection requirements identified in paragraph (f)(1)(iv) of this section.

(ii) The owner or operator of equipment that is designated as unsafe-to-monitor must have a written plan that requires monitoring of the equipment as frequently as practicable during safe-to-monitor times. For valves, connectors, and agitators, monitoring shall not be more frequent than the periodic monitoring schedule otherwise applicable to the group of processes in which the equipment is located. For closed-vent systems, inspections shall not be more frequent than annually.

(3) *Equipment that is difficult-to-monitor.*

(i) A valve, agitator, pump, or any part of a closed-vent system may be designated as difficult-to-monitor if the owner or operator determines that the equipment cannot be monitored or inspected without elevating the monitoring personnel more than 2 meters above a support surface or the equipment is not accessible in a safe manner when it is in organic HAP service;

(ii) At a new affected source, an owner or operator may designate no more than 3 percent of valves as difficult-to-monitor.

(iii) The owner or operator of valves, agitators, or pumps designated as difficult-to-monitor must have a written plan that requires monitoring of the equipment at least once per calendar year or on the periodic monitoring schedule otherwise applicable to the group of processes in which the equipment is located, whichever is less frequent. For any part of a closed-vent system designated as difficult-to-monitor, the owner or operator must have a written plan that requires inspection of the closed-vent system at least once every 5 years.

(4) *Inaccessible, ceramic, or ceramic-lined connectors.*

(i) A connector may be designated as inaccessible if it is:

(A) Buried;

(B) Insulated in a manner that prevents access to the equipment by a monitor probe;

(C) Obstructed by equipment or piping that prevents access to the equipment by a monitor probe;

(D) Unable to be reached from a wheeled scissor-lift or hydraulic-type scaffold which would allow access to equipment up to 7.6 meters above the ground; or

(E) Not able to be accessed at any time in a safe manner to perform monitoring. Unsafe access includes, but is not limited to, the use of a wheeled scissor-lift on unstable or uneven terrain, the use of a motorized man-lift basket in areas where an ignition potential exists, or access would require near proximity to hazards such as electrical lines, or would risk damage to equipment.

(F) Would require elevating the monitoring personnel more than 2 meters above a permanent support surface or would require the erection of scaffold.

(ii) At a new affected source, an owner or operator may designate no more than 3 percent of connectors as inaccessible.

(iii) If any inaccessible, ceramic, or ceramic-lined connector is observed by visual, audible, olfactory, or other means to be leaking, the leak shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in paragraph (b)(3)(i) of this section.

(iv) Any connector that is inaccessible or that is ceramic or ceramic-lined is exempt from the recordkeeping and reporting requirements of paragraphs (g) and (h) of this section.

(g) *Recordkeeping requirements.*

(1) An owner or operator of more than one group of processes subject to the provisions of this section may comply with the recordkeeping requirements for the groups of processes in one recordkeeping system if the system identifies with each record the program being implemented (e.g., quarterly monitoring) for each type of equipment. All records and information required by this section shall be maintained in a manner that can be readily accessed at the plant site. This could include physically locating the records at the plant site or accessing the records from a central location by computer at the plant site.

(2) *General recordkeeping.* Except as provided in paragraph (g)(5) of this section, the following information pertaining to all equipment subject to the requirements in this section shall be recorded:

(i)

(A) A list of identification numbers for equipment (except instrumentation systems) subject to the requirements of this section. Connectors, except those subject to paragraph (f) of this section, need not be individually identified if all connectors in a designated area or length of pipe subject to the provisions of this section are identified as a group, and the number of subject connectors is indicated. The list for each type of equipment shall be completed no later than the completion of the initial survey required for that component. The list of identification numbers shall be updated, if needed, to incorporate equipment changes within 15 calendar days of the completion of each monitoring survey for the type of equipment component monitored.

(B) A schedule for monitoring connectors subject to the provisions of § 63.174(a) of subpart H of this part and valves subject to the provisions of paragraph (e)(4) of this section.

(C) Physical tagging of the equipment is not required to indicate that it is in organic HAP service. Equipment subject to the provisions of this section may be identified on a plant site plan, in log entries, or by other appropriate methods.

(ii)

(A) A list of identification numbers for equipment that the owner or operator elects to equip with a closed-vent system and control device, under the provisions of paragraph (c)(7) of this section or §§ 63.164(h) or 63.165(c) of subpart H of this part.

(B) A list of identification numbers for compressors that the owner or operator elects to designate as operating with an instrument reading of less than 500 parts per million above background, under the provisions of § 63.164(i) of subpart H of this part.

(iii)

(A) A list of identification numbers for pressure relief devices subject to the provisions in § 63.165(a) of subpart H of this part.

(B) A list of identification numbers for pressure relief devices equipped with rupture disks, under the provisions of § 63.165(d) of subpart H of this part.

(iv) Identification of instrumentation systems subject to the provisions of this section. Individual components in an instrumentation system need not be identified.

(v) The following information shall be recorded for each dual mechanical seal system:

(A) Design criteria required by paragraph (c)(5)(vi)(A) of this section and § 63.164(e)(2) of subpart H of this part, and an explanation of the design criteria; and

(B) Any changes to these criteria and the reasons for the changes.

(vi) A list of equipment designated as unsafe-to-monitor or difficult-to-monitor under paragraph (f) of this section and a copy of the plan for monitoring this equipment.

(vii) A list of connectors removed from and added to the process, as described in § 63.174(i)(1) of subpart H of this part, and documentation of the integrity of the weld for any removed connectors, as required in § 63.174(j) of subpart H of this part. This is not required unless the net credits for removed connectors is expected to be used.

(viii) For batch processes that the owner or operator elects to monitor as provided under § 63.178(c) of subpart H of this part, a list of equipment added to batch product processes since the last monitoring period required in § 63.178(c)(3)(ii) and (iii) of subpart H of this part. This list must be completed for each type of equipment within 15 calendar days of the completion of the each monitoring survey for the type of equipment monitored.

(3) *Records of visual inspections.* For visual inspections of equipment subject to the provisions of paragraphs (c)(2)(iii) and (c)(5)(iv) of this section, the owner or operator shall document that the inspection was conducted and the date of the inspection. The owner or operator shall maintain records as specified in paragraph (g)(4) of

this section for leaking equipment identified in this inspection, except as provided in paragraph (g)(5) of this section. These records shall be retained for 5 years.

(4) *Monitoring records.* When each leak is detected as specified in paragraphs (c) and (e) of this section and §§ 63.164, 63.169, 63.172, and 63.174 of subpart H of this part, the owner or operator shall record the information specified in paragraphs (g)(4)(i) through (ix) of this section. All records shall be retained for 5 years, in accordance with the requirements of § 63.10(b)(1) of subpart A of this part.

(i) The instrument and the equipment identification number and the operator name, initials, or identification number.

(ii) The date the leak was detected and the date of first attempt to repair the leak.

(iii) The date of successful repair of the leak.

(iv) If postrepair monitoring is required, maximum instrument reading measured by Method 21 of 40 CFR part 60, appendix A, after it is successfully repaired or determined to be nonrepairable.

(v) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(A) The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. The written procedures may be included as part of the startup/shutdown/malfunction plan, required by § 63.1367(a), for the source or may be part of a separate document that is maintained at the plant site. Reasons for delay of repair may be documented by citing the relevant sections of the written procedure.

(B) If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked onsite before depletion and the reason for depletion.

(vi) If repairs were delayed, dates of process shutdowns that occur while the equipment is unrepaired.

(vii)

(A) If the alternative in § 63.174(c)(1)(ii) of subpart H of this part is not in use for the monitoring period, identification, either by list, location (area or grouping), or tagging of connectors disturbed since the last monitoring period required in § 63.174(b) of subpart H of this part, as described in § 63.174(c)(1) of subpart H of this part.

(B) The date and results of follow-up monitoring as required in § 63.174(c) of subpart H of this part. If identification of disturbed connectors is made by location, then all connectors within the designated location shall be monitored.

(viii) The date and results of the monitoring required in § 63.178(c)(3)(i) of subpart H of this part for equipment added to a batch process since the last monitoring period required in § 63.178(c)(3)(ii) and (iii) of subpart H of this part. If no leaking equipment is found in this monitoring, the owner or operator shall record that the inspection was performed. Records of the actual monitoring results are not required.

(ix) Copies of the periodic reports as specified in paragraph (h)(3) of this section, if records are not maintained on a computerized data base capable of generating summary reports from the records.

(5) *Records of pressure tests.* The owner or operator who elects to pressure test a process equipment train and supply lines between storage and processing areas to demonstrate compliance with this section is exempt from the requirements of paragraphs (g)(2), (3), (4), and (6) of this section. Instead, the owner or operator shall maintain records of the following information:

(i) The identification of each product, or product code, produced during the calendar year. It is not necessary to identify individual items of equipment in the process equipment train.

(ii) Records demonstrating the proportion of the time during the calendar year the equipment is in use in the process that is subject to the provisions of this subpart. Examples of suitable documentation are records of time in use for individual pieces of equipment or average time in use for the process unit. These records are not required if the owner or operator does not adjust monitoring frequency by the time in use, as provided in § 63.178(c)(3)(iii) of subpart H of this part.

(iii) Physical tagging of the equipment to identify that it is in organic HAP service and subject to the provisions of this section is not required. Equipment in a process subject to the provisions of this section may be identified on a plant site plan, in log entries, or by other appropriate methods.

(iv) The dates of each pressure test required in § 63.178(b) of subpart H of this part, the test pressure, and the pressure drop observed during the test.

(v) Records of any visible, audible, or olfactory evidence of fluid loss.

(vi) When a process equipment train does not pass two consecutive pressure tests, the following information shall be recorded in a log and kept for 2 years:

(A) The date of each pressure test and the date of each leak repair attempt.

(B) Repair methods applied in each attempt to repair the leak.

(C) The reason for the delay of repair.

(D) The expected date for delivery of the replacement equipment and the actual date of delivery of the replacement equipment.

(E) The date of successful repair.

(6) *Records of compressor and pressure relief valve compliance tests.* The dates and results of each compliance test required for compressors subject to the provisions in § 63.164(i) of subpart H of this part and the dates and results of the monitoring following a pressure release for each pressure relief device subject to the provisions in § 63.165(a) and (b) of subpart H of this part. The results shall include:

(i) The background level measured during each compliance test.

(ii) The maximum instrument reading measured at each piece of equipment during each compliance test.

(7) *Records for closed-vent systems.* The owner or operator shall maintain records of the information specified in paragraphs (g)(7)(i) through (iii) of this section for closed-vent systems and control devices subject to the provisions of paragraph (b)(3)(ii) of this section. The records specified in paragraph (g)(7)(i) of this section shall be retained for the life of the equipment. The records specified in paragraphs (g)(7)(ii) and (iii) of this section shall be retained for 5 years.

(i) The design specifications and performance demonstrations specified in paragraphs (g)(7)(i)(A) through (D) of this section.

(A) Detailed schematics, design specifications of the control device, and piping and instrumentation diagrams.

(B) The dates and descriptions of any changes in the design specifications.

(C) The flare design (i.e., steam assisted, air assisted, or nonassisted) and the results of the compliance demonstration required by § 63.11(b) of subpart A of this part.

(D) A description of the parameter or parameters monitored, as required in paragraph (b)(3)(ii) of this section, to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.

(ii) Records of operation of closed-vent systems and control devices.

(A) Dates and durations when the closed-vent systems and control devices required in paragraph (c) of this section and §§ 63.164 through 63.166 of subpart H of this part are not operated as designed as indicated by the monitored parameters, including periods when a flare pilot light system does not have a flame.

(B) Dates and durations during which the monitoring system or monitoring device is inoperative.

(C) Dates and durations of startups and shutdowns of control devices required in paragraph (c) of this section and §§ 63.164 through 63.166 of subpart H of this part.

(iii) Records of inspections of closed-vent systems subject to the provisions of § 63.172 of subpart H of this part.

(A) For each inspection conducted in accordance with the provisions of § 63.172(f)(1) or (2) of subpart H of this part during which no leaks were detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

(B) For each inspection conducted in accordance with the provisions of § 63.172(f)(1) or (f)(2) of subpart H of this part during which leaks were detected, the information specified in paragraph (g)(4) of this section shall be recorded.

(8) *Records for components in heavy liquid service.* Information, data, and analysis used to determine that a piece of equipment or process is in heavy liquid service shall be recorded. Such a determination shall include an analysis or demonstration that the process fluids do not meet the criteria of "in light liquid or gas/vapor service." Examples of information that could document this include, but are not limited to, records of chemicals purchased for the process, analyses of process stream composition, engineering calculations, or process knowledge.

(9) *Records of exempt components.* Identification, either by list, location (area or group), or other method of equipment in organic HAP service less than 300 hr/yr subject to the provisions of this section.

(10) *Records of alternative means of compliance determination.* Owners and operators choosing to comply with the requirements of § 63.179 of subpart H of this part shall maintain the following records:

(i) Identification of the process(es) and the organic HAP they handle.

(ii) A schematic of the process, enclosure, and closed-vent system.

(iii) A description of the system used to create a negative pressure in the enclosure to ensure that all emissions are routed to the control device.

(h) *Reporting Requirements.*

(1) Each owner or operator of a source subject to this section shall submit the reports listed in paragraphs (h)(1)(i) and (ii) of this section.

(i) A Notification of Compliance Status report described in paragraph (h)(2) of this section, and

(ii) Periodic reports described in paragraph (h)(3) of this section.

(2) *Notification of compliance status report.* Each owner or operator of a source subject to this section shall submit the information specified in paragraphs (h)(2)(i) through (iii) of this section in the Notification of Compliance Status report described in § 63.1368(f). Section 63.9(j) of subpart A of this part shall not apply to the Notification of Compliance Status report.

(i) The notification shall provide the information listed in paragraphs (h)(2)(i)(A) through (C) of this section for each group of processes subject to the requirements of paragraphs (b) through (g) of this section.

(A) Identification of the group of processes.

(B) Approximate number of each equipment type (e.g., valves, pumps) in organic HAP service, excluding equipment in vacuum service.

(C) Method of compliance with the standard (for example, "monthly leak detection and repair" or "equipped with dual mechanical seals").

(ii) The notification shall provide the information listed in paragraphs (h)(2)(ii)(A) and (B) of this section for each process subject to the requirements of paragraph (b)(3)(iv) of this section and § 63.178(b) of subpart H of this part.

(A) Products or product codes subject to the provisions of this section, and

(B) Planned schedule for pressure testing when equipment is configured for production of products subject to the provisions of this section.

(iii) The notification shall provide the information listed in paragraphs (h)(2)(iii)(A) and (B) of this section for each process subject to the requirements in § 63.179 of subpart H of this part.

(A) Process identification.

(B) A description of the system used to create a negative pressure in the enclosure and the control device used to comply with the requirements of paragraph (b)(3)(ii) of this section.

(3) *Periodic reports.* The owner or operator of a source subject to this section shall submit Periodic reports.

(i) A report containing the information in paragraphs (h)(3)(ii), (iii), and (iv) of this section shall be submitted semiannually. The first Periodic report shall be submitted no later than 240 days after the date the Notification of Compliance Status report is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status report is due. Each subsequent Periodic report shall cover the 6-month period following the preceding period.

(ii) For equipment complying with the provisions of paragraphs (b) through (g) of this section, the Periodic report shall contain the summary information listed in paragraphs (h)(3)(ii)(A) through (L) of this section for each monitoring period during the 6-month period.

(A) The number of valves for which leaks were detected as described in paragraph (e)(2) of this section, the percent leakers, and the total number of valves monitored;

(B) The number of valves for which leaks were not repaired as required in paragraph (e)(7) of this section, identifying the number of those that are determined nonrepairable;

(C) The number of pumps and agitators for which leaks were detected as described in paragraph (c)(2) of this section, the percent leakers, and the total number of pumps and agitators monitored;

(D) The number of pumps and agitators for which leaks were not repaired as required in paragraph (c)(3) of this section;

(E) The number of compressors for which leaks were detected as described in § 63.164(f) of subpart H of this part;

(F) The number of compressors for which leaks were not repaired as required in § 63.164(g) of subpart H of this part;

(G) The number of connectors for which leaks were detected as described in § 63.174(a) of subpart H of this part, the percent of connectors leaking, and the total number of connectors monitored;

(H) The number of connectors for which leaks were not repaired as required in § 63.174(d) of subpart H of this part, identifying the number of those that are determined nonrepairable;

(I) The facts that explain any delay of repairs and, where appropriate, why a process shutdown was technically infeasible.

(J) The results of all monitoring to show compliance with §§ 63.164(i), 63.165(a), and 63.172(f) of subpart H of this part conducted within the semiannual reporting period.

(K) If applicable, the initiation of a monthly monitoring program under either paragraph (c)(4)(ii) or paragraph (e)(4)(i)(A) of this section.

(L) If applicable, notification of a change in connector monitoring alternatives as described in § 63.174(c)(1) of subpart H of this part.

(iii) For owners or operators electing to meet the requirements of § 63.178(b) of subpart H of this part, the Periodic report shall include the information listed in paragraphs (h)(3)(iii) (A) through (E) of this section for each process.

(A) Product process equipment train identification;

(B) The number of pressure tests conducted;

(C) The number of pressure tests where the equipment train failed either the retest or two consecutive pressure tests;

(D) The facts that explain any delay of repairs; and

(E) The results of all monitoring to determine compliance with § 63.172(f) of subpart H of this part.

(iv) Any change in the information submitted under paragraph (h)(2) of this section shall be provided in the next Periodic report.

VII. Appendix C: 40 CFR 63, Subpart MMM, Table 1

Reference to subpart A	Applies to subpart MMM	Explanation
Sec. 63.1(a)(1)	Yes	Additional terms are defined in Sec. 63.1361.
Sec. 63.1(a)(2)-(3)	Yes	
Sec. 63.1(a)(4)	Yes	Subpart MMM (this table) specifies applicability of each paragraph in subpart A to subpart MMM.
Sec. 63.1(a)(5)	N/A	Reserved.
Sec. 63.1(a)(6)-(7)	Yes	
Sec. 63.1(a)(8)	No	Discusses State programs.
Sec. 63.1(a)(9)	N/A	Reserved.
Sec. 63.1(a)(10)-(14)	Yes	
Sec. 63.1(b)(1)	No	Sec. 63.1360 specifies applicability.
Sec. 63.1(b)(2)-(3)	Yes	
Sec. 63.1(c)(1)	Yes	Subpart MMM (this table) specifies the applicability of each paragraph in subpart A to sources subject to subpart MMM.
Sec. 63.1(c)(2)	No	Area sources are not subject to subpart MMM.
Sec. 63.1(c)(3)	N/A	Reserved.
Sec. 63.1(c)(4)-(5)	Yes	
Sec. 63.1(d)	N/A	Reserved.
Sec. 63.1(e)	Yes	
Sec. 63.2	Yes	Additional terms are defined in Sec. 63.1361; when overlap between subparts A and MMM occurs, subpart MMM takes precedence.
Sec. 63.3	Yes	Other units used in subpart MMM are defined in that subpart.
Sec. 63.4(a)(1)-(3)	Yes	
Sec. 63.4(a)(4)	N/A	Reserved.
Sec. 63.4(a)(5)-(c)	Yes	
Sec. 63.5(a).	Yes.	Except the term ``affected source'' shall apply instead of the terms ``source'' and ``stationary source'' in Sec. 63.5(a)(1) of subpart A.
Sec. 63.5(b)(1)	Yes	
Sec. 63.5(b)(2)	N/A	Reserved.
Sec. 63.5(b)(3)-(5)	Yes	
Sec. 63.5(b)(6)	No	Sec. 63.1360(g) specifies requirements for determining applicability of added PAI equipment.
Sec. 63.5(c)	N/A	Reserved.
Sec. 63.5(d)-(e)	Yes	
Sec. 63.5(f)(1)	Yes	Except ``affected source'' shall apply instead of ``source'' in Sec. 63.5(f)(1) of subpart A.
Sec. 63.5(f)(2)	Yes	
Sec. 63.6(a)	Yes	
Sec. 63.6(b)(1)-(2)	No	Sec. 63.1364 specifies compliance dates.
Sec. 63.6(b)(3)-(4)	Yes	
Sec. 63.6(b)(5)	Yes	
Sec. 63.6(b)(6)	N/A	Reserved.
Sec. 63.6(b)(7)	Yes	
Sec. 63.6(c)(1)-(2)	Yes	Except ``affected source'' shall apply instead of ``source'' in Sec. 63.6(c)(1)-(2) of subpart A.
Sec. 63.6(c)(3)-(4)	N/A	Reserved.
Sec. 63.6(c)(5)	Yes	
Sec. 63.6(d)	N/A	Reserved.

Table 1 (continued)

Reference to subpart A	Applies to subpart MMM	Explanation
Sec. 63.6(e)	Yes	Except Sec. 63.1360 specifies that the standards in subpart MMM apply during startup and shutdown for batch processes; therefore, these activities would not be covered in the startup, shutdown, and malfunction Plan.
Sec. 63.6(f)	Yes	Except Sec. 63.1360 specifies that the standards in subpart MMM also apply during startup and shutdown for batch processes.
Sec. 63.6(g)	Yes	An alternative standard has been proposed; however, affected sources will have the opportunity to demonstrate other alternatives to the Administrator.
Sec. 63.6(h)	No	Subpart MMM does not contain any opacity or visible emissions standards.
Sec. 63.6(i)(1)	Yes	
Sec. 63.6(i)(2)	Yes	Except ``affected source'' shall apply instead of ``source'' in Sec. 63.6(i)(2)(i) and (ii) of subpart A.
Sec. 63.6(i)(3)-(14)	Yes	
Sec. 63.6(i)(15)	N/A	Reserved.
Sec. 63.6(i)(16)	Yes	
Sec. 63.6(j)	Yes	
Sec. 63.7(a)(1)	Yes	
Sec. 63.7(a)(2)(i)-(vi)	Yes	Sec. 63.1368 specifies that test results must be submitted in the Notification of Compliance Status due 150 days after the compliance date.
Sec. 63.7(a)(2)(vii)-(viii)	N/A	Reserved.
Sec. 63.7(a)(2)(ix)-(c)	Yes	
Sec. 63.7(d)	Yes	Except ``affected source'' shall apply instead of ``source'' in Sec. 63.7(d) of subpart A.
Sec. 63.7(e)(1)	Yes	Sec. 63.1365 contains test methods specific to PAI sources.
Sec. 63.7(e)(2)	Yes	
Sec. 63.7(e)(3)	Yes	Except Sec. 63.1365 specifies less than 3 runs for certain tests.
Sec. 63.7(e)(4)	Yes	
Sec. 63.7(f)	Yes	
Sec. 63.7(g)(1)	Yes	Except Sec. 63.1368(a) specifies that the results of the performance test be submitted with the Notification of Compliance Status report
Sec. 63.7(g)(2)	N/A	Reserved.
Sec. 63.7(g)(3)	Yes	
Sec. 63.7(h)	Yes	
Sec. 63.8(a)(1)-(2)	Yes	
Sec. 63.8(a)(3)	N/A	Reserved.
Sec. 63.8(a)(4)	Yes	
Sec. 63.8(b)(1)	Yes	
Sec. 63.8(b)(2)	No	Sec. 63.1366 specifies CMS requirements.
Sec. 63.8(b)(3)-(c)(3)	Yes	Except the submittal date of the immediate startup, shutdown, and malfunction reports for CMS events shall be 2 days as in Sec. 63.6(e)(3)(iv).
Sec. 63.8(c)(4)	No	Sec. 63.1366 specifies monitoring frequencies.
Sec. 63.8(c)(5)-(8)	No	
Sec. 63.8(d)-(f)(3)	Yes	
Sec. 63.8(f)(4)	Yes	Except Sec. 63.1368(b) specifies that requests may also be included in the Precompliance report.

Table 1 (continued)

Reference to subpart A	Applies to subpart MMM	Explanation
Sec. 63.8(f)(5)	Yes	
Sec. 63.8(f)(6)	No	Subpart MMM does not require CEM's.
Sec. 63.8(g)	No	Sec. 63.1366 specifies data reduction procedures.
Sec. 63.9(a)-(d)	Yes	
Sec. 63.9(e)	No	
Sec. 63.9(f)	No	Subpart MMM does not contain opacity and visible emission standards.
Sec. 63.9(g)	No	
Sec. 63.9(h)(1)	Yes	
Sec. 63.9(h)(2)(i)	Yes	Except Sec. 63.1368(a)(1) specifies additional information to include in the Notification of Compliance Status report.
Sec. 63.9(h)(2)(ii)	No	Sec. 63.1368 specifies the Notification of Compliance Status report is to be submitted within 150 days after the compliance date.
Sec. 63.9(h)(3)	Yes	
Sec. 63.9(h)(4)	N/A	Reserved.
Sec. 63.9(h)(5)-(6)	Yes	
Sec. 63.9(i)	Yes	
Sec. 63.9(j)	No	63.1368(h) specifies procedures for notification of changes.
Sec. 63.10(a)-(b)(1)	Yes	
Sec. 63.10(b)(2)	No	Sec. 63.1367 specifies recordkeeping requirements.
Sec. 63.10(b)(3)	Yes	
Sec. 63.10(c)	Yes	
Sec. 63.10(d)(1)	Yes	
Sec. 63.10(d)(2)	Yes	
Sec. 63.10(d)(3)	No	Subpart MMM does not include opacity and visible emission standards.
Sec. 63.10(d)(4)	Yes	
Sec. 63.10(d)(5)	Yes	Except that actions and reporting for batch processes do not apply during startup and shutdown.
Sec. 63.10(e)(1)-(2)(i)	Yes	
Sec. 63.10(e)(2)(ii)	No	Subpart MMM does not include opacity monitoring requirements.
Sec. 63.10(e)(3)	Yes	
Sec. 63.10(e)(4)	No	Subpart MMM does not include opacity monitoring requirements.
Sec. 63.10(f)	Yes	
Sec. 63.11-Sec. 63.15	Yes	

VIII. Appendix D: DNR Air Quality Policy 3-b-08, Opacity Limits

IOWA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

POLICY/PROCEDURE STATEMENT

TOPIC: Opacity Limits

Policy Procedure Number: 3-b-08 **Replaces Number: None**

Date: **Effective Date:** November 12, 1998

Preparer: David Phelps **Reviewer:**

Approval: **Bureau Chief: Peter Hamlin** **Date:** 11/12/98

Division Administrator: Allan Stokes **Date:** 11/12/98

Applicable Code of Iowa or Iowa Administrative Code Rule: 23.3(2)d

"No person shall allow, cause or permit the emission of visible air contaminants into the atmosphere from any equipment, internal combustion engine, premise fire, open fire or stack, equal to or in excess of 40 percent opacity or that level specified in a construction permit, except as provided below and in 567-Chapter 24."

REASON OR BACKGROUND

The default opacity limit allowed by regulation is 40%. This limit was established with the original regulations in 1970. It is generally accepted that opacity greater than 40% was evidence of a mass emission standard exceedence. More recently, there have been requests from facilities for limits much lower than that allowed by the regulations, in some cases less than 0.01 gr/scf to which a 40% opacity limit does not correspond. Since opacity is used as an indicator of the particulate emission rate, listing an indicated potential problem opacity that is more in line with the mass emission rate is useful. In order to have the authority to set limits lower than 40%, subrule 23.3(2)d was changed. This change allows the department the ability to set opacity limits at a level that more closely corresponds to what would be observed by the source when operating in compliance with its mass emission rate.

Except in the case where a specific opacity limit is established by rule, it has been the general policy of the Department not to take action on opacity limits directly. Rather, if it is felt that a violation of the mass emission rate exists that is not attributable to some abnormal event, a stack test would be required to verify compliance. However, the Department reserves the right to use the results of formal opacity readings as evidence of an exceedence.

DETAILS

It shall be the policy of the Department to list the default opacity as a permit condition and in addition an indicator opacity may be listed.

For ease of proving continual compliance a source may request a 'no visible emissions' opacity limit which allows proof of compliance without having a certified opacity reading taken. In this case any visible emissions would be an exceedence.

The IDNR permit writer may list an opacity that will be a indicator of possible mass emission rate exceedence. If the permitee wishes, the recommended indicator opacity may be changed by demonstrating compliance with the mass emission rate during a stack test while emitting the new desired indicator opacity. If the tested mass emission rate is less than the permitted emission rate, then the desired indicator opacity may be set at a proportionally higher level than observed during the stack test.

If an opacity measurement, taken in accordance with an approved reference method for opacity, (generally USEPA Method 9 or 22) exceeds the indicator opacity then the facility will promptly investigate the source and make corrections. However, if after corrections are made the opacity continues to exceed the indicator opacity the Department may require additional proof to demonstrate compliance with the mass emissions limits.

Recommended indicator opacities shall be:

Grain Loading gr./scf	Recommended Indicator Opacity
<0.01 gr./scf	non specified in permit *
0.01 to 0.06 gr./scf	10% Opacity
0.061 to 0.08 gr./scf	20% Opacity
0.081 to 0.1 gr./scf	25% Opacity

* A line is added to the permit that states: "If visible emissions are observed other that start-up, shut-down, or malfunction, a stack test may be required to demonstrate compliance with the particulate standard."

If a source is a batch process the indicator opacity shall be based on the table above, but the opacity averaging period, for comparison to the indicator opacity, shall be the entire batch cycle. For purposes of comparison to the indicator opacity readings shall be taken during the entire cycle and averaged.

Sources are also given the opportunity to set source specific limits to be coordinated with the initial compliance test. These may then be incorporated into the permit.

In all cases an exceedence of the indicator opacity will require the permitee to file an "indicator opacity exceedence report" to the IDNR regional office. The reporting requirements shall be:

Oral report of excess indicator opacity. An incident of excess indicator opacity (other than an incident of excess indicator opacity during a period of startup, shutdown, or cleaning) shall be reported to the appropriate regional office of the department within eight hours of, or at the start of the first working day following the onset of the of the incident. The reporting exemption for an incident of excess indicator opacity during startup and shutdown or cleaning does not relieve the owner or operator of a source with continuous monitoring equipment of the obligation of submitting reports required in subrule 25.1(6).

An oral report of excess indicator opacity is not required for a source with operational continuous monitoring equipment (as specified in subrule 25.1(1) if the incident of excess indicator opacity continues for less than 30 minutes and does not exceed the applicable visible emission standard by more than 10 percent opacity.

The oral report may be made in person or by telephone and shall include as a minimum the following:

a) The identity of the equipment or source operation form which the excess indicator opacity originated and the associated stack or emission point.
b) The estimated quantity of the excess indicator opacity.
c) The time and expected duration of the excess indicator opacity.
d) The cause of the excess indicator opacity.
e) The steps being taken to remedy the excess indicator opacity.
f) The steps being taken to limit the excess indicator opacity in the interim period.

Written report of excess indicator opacity. A written report of an incident of excess indicator opacity shall be submitted as a follow-up to all required oral reports to the department within seven (7) days of the onset of the upset condition, and shall include as a minimum the following:

a) The identity of the equipment or source operation point from which the excess emission originate and the associated stack or emission point.
b) The estimated quantity of the excess indicator opacity.
c) The time and duration of the excess indicator opacity.
d) The cause of the excess indicator opacity.
e) The steps that were taken to remedy and to prevent the recurrence of the incident of excess indicator opacity.
f) The steps that were taken to limit the excess indicator opacity.
g) If the owner claims that the excess indicator opacity was due to malfunction, documentation to support this claim.

Exceptions to this policy:

1) In the case where a facility has an opacity limit established in an existing permit, no change will be made to that permit limit unless the permit is being modified for other purposes.
2) If the facility has a continuous opacity monitor, this policy shall not apply.
3) This policy shall not apply to opacity limits established in Prevention of Significant Deterioration (PSD) permits or permits that were established for maintenance plans for nonattainment areas.
4) This policy shall not apply where an opacity limit is established as an indication of hazardous air pollutants.

5) This policy shall not apply where an opacity limit is established by a rule, New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAPS), etc.